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TRANSACTIONS

OF THE

FORTIETH SESSION

OF THE

HOMOEOPATHIC MEDICAL SOCIETY

OF THE

STATE OF PENNSYLVANIA.

Held at the Brainerd-Union Church, Easton,
September 20, 21 and 22, 1904.

LANCASTER, PA.:
THE EXAMINER PRINTING HOUSE.
1904.

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	do	J. A. BULLARD, M. D.,	Wilkesbarre.

To the Homœopathic Medical Society of the State of Pennsylvania:

Your Committee on Publication herewith presents the Transactions of the Fortieth Session of the Society, held at Easton.

Following the precedent of last year, the Committee deemed it for the interest of the Society to insert the illustrations which embellish several of the articles.

EDWARD M. GRAMM, M. D., *Chairman:*
ELLA D. GOFF, M. D.,
GEO. B. MORELAND., M. D.

CONTENTS.

PAGE.

Call to Order. D. C. Kline, M. D. 9
Invocation. Rev. L. W. Eckard, D. D. 9
Address of Welcome. E. D. Doolittle, M. D. 9
Address of Welcome. Ethelbert D. Warfield, LL. D. 11
Response to Address of Welcome. Theodore Sureth, M. D. 13
Address of the President. D. C. Kline, M. D. 14
Report of the Corresponding Secretary. Edward M. Gramm, M. D. 22
Order of Business 22
Report of the Board of Trustees 28
Report of the Committee on Organization, Registration and Statistics. George B. Moreland, M. D., Chairman 28
Homœopathic Medical Societies of the State of Pennsylvania 30
Homœopathic Dispensaries of the State of Pennsylvania 34
Homœopathic Hospitals of the State of Pennsylvania 34
Report of the Committee on Legislation 36
Report of the Delegates to the Interstate Committee of the American Institute of Homœopathy 36
Report of the Necrologist. Chandler Weaver, M. D. 38
Report of the Committee on the Examination of Students. Edward M. Gramm, M. D., Chairman 41
Report of the Board of Censors 43
New Members 43
Resignation of Dr. C. S. Schwenk 45
Report of the Treasurer. Ella D. Goff, M. D. 45
Resolutions in Reference to Registration of Vital Statistics 45
Resolutions in Reference to Health Officers in Rural Districts 46
Election of Officers 46
Officers for 1905 46
Resolution Concerning Code of Ethics 46
Proposed Amendments to the By-Laws 47
Donation to Institute of Drug Provings 48
Communication from Pennsylvania State Nurses' Association 48
Place of Next Meeting 48
Votes and Resolutions of Thanks 49
Concerning Membership Committee 49
Delegates and Committees 50
Delegates to the American Institute of Homœopathy 50
Delegates to the Interstate Committee of the American Institute of Homœopathy 50
Committee on Legislation 50
Committee on Organization, Registration and Statistics 50
Committee on Publication 50

PAGE.

Special Committee to Interview Board of Medical Examiners 50
Press Committee 50
Membership Committee 50
Charter 51
By-Laws 53
Chronological List of Officers 61
List of Members 64
Honorary Members 76
Corresponding Members 76
Necrological List 77
Members and Visitors Registered at the Meeting 81
Papers and Discussions 83
Report of the Section of Gynæcology 85
Gynæcology for the General Practitioner. W. A. Stewart, M. D. 85
The Obligations of the Physician in the Care of Obstetric Cases. B. Frank Betts M. D. 92
Medical Gynæcology. Millie J. Chapman, M. D. 100
Diseases of the Fallopian Tubes. T. L. Chase, M. D. 102
A Plea for the Indicated Remedy. S. W. S. Dinsmore, M. D... 115
Eserin in Post-Operative Intestinal Paralysis. T. J. Gramm, M. D. 118
Retro-Displacement of the Uterus. N. F. Lane, M. D. 127
Report of the Section of Pathology and Pathological Anatomy ... 138
The Parasitic Origin of Carcinoma. T. J. Gramm, M. D. 138
Locomotor Ataxia; a Case. W. F. Baker, M. D. 151
Early Operation in Appendicitis From a Pathological Standpoint. J. E. Belville, M. D. 155
An Unusual Case of Diphtheria; Nasal Intubation; Recovery. H. M. Gay, M. D., and C. S. Raue, M. D. 166
Diacetic Acid in Diabetes Mellitus. J. C. Guernsey, M. D. 168
Advanced Biology With Relation to Homœopathic Principles. I. W. Heysinger, M. D. 170
The Pathology of the Puerperium. R. E. Tomlin, M. D. 187
A Case of Appendicitis in a Large Inguinal Hernia. A. W. Yale, M. D. 192
Report of the Section of Pædology 194
The Demands of Pædology in the Progress of Medicine. Anna D. Varner, M. D. 194
"My Paralyzed Baby;" a Unique Case. Mary Brewer, M. D. 199
Convalescence. E. S. Haines, M. D. 202
The Observation of Symptoms in Children. Julia C. Loos, M. D. 209
Typhoid Fever in Children. A. S. McDowell, M. D. 216
Marasmus. F. L. Muth, M. D. 220
Report of the Section of Surgery 224
Asepsis and Its Uses in Latter Day Surgery. J. L. Peck, M. D. 224
The Treatment of Certain Intra-Abdominal Diseases From the Standpoint of Surgery. G. M. Christine, M. D. 229
Excision of the Elbow Joint. E. R. Gregg, M. D. 244

PAGE.

Anal Fissure. G. B. Moreland, M. D. 250
Nephropexy According to the Method of Edebohls. H. L. Northrop, M. D. 257
Fractures of the Neck of the Femur. G. A. Van Lennep, M. D. 263
The present Status of the Surgery of the Stomach. W. B. Van Lennep, M. D. 273
REPORT OF THE SECTION OF SANITARY SCIENCE 288
Sanitary Clothing. R. L. Piper, M. D. 288
The Salt River Valley Climate (Arizona). B. E. Bigler, M. D. 296
Food Impurities and Adulterations. J. D. Boileau, M. D. 299
Human Environment. W. E. Rotzell, M. D. 307
REPORT OF THE SECTION OF CLINICAL MEDICINE 316
Symptom Chasing. J. A. Bullard, M. D. 316
Arthritis Deformans; With Report of a Case. G. M. Golden, M. D. 323
Pneumonia and Pleurisy in Childhood. C. S. Raue, M. D. 336
The Diagnostic Value of the Normal Constituents of Urine. W. W. Seibert, M. D. 346
On the Frequency of Pulmonary Phthisis in Infancy and Childhood. E. R. Snader, M. D. 349
The Nature of Disease. Robert Walter, M. D. 356
REPORT OF THE SECTION OF MATERIA MEDICA 365
A Few Thougths on Our Materia Medica. Aug. Korndœrfer, Sr., M. D. 365
Loyalty to the Pharmacopœia. T. H. Carmichael, M. D. 376
Calcarea Carb., Kali Carb. and Graphites. Edward Cranch, M. D. 387
The Phophylactic Power of Some Drugs. J. C. Guernsey, M. D. 390
REPORT OF THE SECTION OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY. 398
A Few Remedies Rarely Prescribed in Diseases of the Eye, With Their Indications. D. W. Harner, M. D. 398
Eye-Strain; Its Consequences and Treatment. G. H. Haas, M. D. 401
A Few Points on Nasal Diseases. H. F. Schantz, M. D. 407
Some Reflexes From Eye-Strain. J. W. Stitzel, M. D. 414
Report of Cases. H. B. Ware, M. D. 420
Nasal Obstruction: Its Causes and Results. H. S. Weaver, M. D. 428
REPORT OF THE SECTION OF OBSTETRICS 438
Chorio-Epithelioma Malignum; Report of a Case; Resume of the Histology and Pathology. J. E. James, Jr., M. D. 438
Hospital Versus Home Care of Confinement Cases. Emma T. Schreiner, M. D. 454
Toxæmia and Albuminuria of Pregnancy and Their Treatment. E. S. Snyder, M. D. 460
Extra-Uterine Pregnancy. J. H. Thompson, M. D. 466
CODE OF MEDICAL ETHICS OF THE AMERICAN INSTITUTE OF HOMŒOPATHY. 474
INDEX 489

TRANSACTIONS

OF THE

FORTIETH SESSION

OF THE

Homœopathic Medical Society

OF THE

STATE OF PENNSYLVANIA.

Held at the Brainerd-Union Chapel, Easton,

September 20th, 21st and 22d, 1904.

The President, Dr. D. C. Kline, called the meeting to order on the morning of September 20, 1904.

The divine blessing was invoked by the Rev. L. W. Eckard, D. D., of the Brainerd-Union church.

On behalf of the Lehigh Valley Homœopathic Medical Society, Dr. E. D. Doolittle delivered the following:

ADDRESS OF WELCOME.

Members of the State Society and Visitors:—It is not only my duty but my privilege, on behalf of the Lehigh Valley Homœopathic Medical Society, to extend to you a most cordial welcome to our city. And allow me to say on behalf of our members, that your welcome here is not mere lip-service, but comes from the heart, and it is our earnest desire that your stay in our midst may be so profitable as regards the new and important facts pertaining to our profession that we will get from each other, and the social pleasures you may enjoy, that every one will go home saying, "truly this meeting has been the

best in every way that I ever attended," and may its effects be such that during the coming years in many a serious case something that has been said at this meeting may come to you and aid you in doing the best for your patient, and may your thoughts often turn to the friendships here begun, and as the years go by may they grow stronger and brighter, and help to cheer us in many of our busy and anxious hours, for what would life be worth without our friends, a poor barren place, but with congenial frends we have a foretaste of heaven itself. We hope you will find such a friend in every member of our Society. You will find in our city and its surroundings much of interest. On North Third street is the German Reformed church. The first building was erected in 1776. In it a treaty with the Indians was made in 1777. It was used as a hospital for the wounded soldiers from the battlefields of Brooklyn and Brandywine, and here they were visited by Washington. On the corner of Fourth and Ferry streets is a building that was erected by William Parsons, in 1757. He was called the Godfather of Easton. In this house, at a later date, lived Hon. George Taylor, a signer of the Declaration of Independence, and to his memory the citizens of Easton, in 1855, erected a handsome monument in our beautiful cemetery. Our scenery is varied and grand, and we have many views as fine as any in the world, and you are heartily welcome to all you can get of them. Since your last meeting here, in 1880, Dr. Henry Detwiller, who was then with us, has gone home. Dr. Detwiller was the pioneer of Homœopathy in this State. He came to this country in 1817, settled at Hellertown in 1818, afterwards investigated Homœopathy and made his first homœopathic prescription in 1828. He removed to Easton in 1852, and lived here until his death, in 1887. Dr. Detwiller was a most able exponent of Homœopathy, he was loved and revered by his patients, and held in high honor by his fellow townsmen. He was a most thorough student, and a wise and able practitioner. Let us emulate his example.

Allow me to say that while you will find that our city contains buildings of stone, brick and wood, the same as other cities, we do think that our people are made of just a little finer material than the ordinary, and especially our ladies, and I know full well that after you have become acquainted with them and have enjoyed the many pleasures they have arranged for you that you will leave with regret, and think that however much we might say in their praise we have not said half as much they deserve. A special committee has inter-

viewed the Mayor, and he says that during your stay the city is yours, and if at any time you should be in need of anything, if you will just whisper the word "similibus" in the ear of any of our policemen they will see to it that your wants are fully supplied.

We trust our meeting will be a very successful one. May we realize the dignity and honor of our profession, and the vast amount of good it has accomplished. It is like moonlight on the sea. It brightens the storms of life, it cannot still. Like the legendary spirit of Charlemagne, it crosses its bridge of gold to bless and benefit mankind, and turning its face to the future, with eternal sunshine on its brow, moves grandly forward to the time when all men's good shall be each man's rule.

I now have the honor to introduce to you Ethelbert D. Warfield, LL. D., President of Lafayette College, who will welcome you on behalf of the citizens of the city.

ADDRESS OF WELCOME.

ETHELBERT D. WARFIELD, LL. D.

Mr. President and Members of the Homœopathic Medical Society of the State of Pennsylvania:

It gives me great pleasure to be here this morning to give you a very hearty welcome, as the representative of the citizens of our beautiful city. I hesitate to say that the town is wide open, because, like so many of our beautiful phrases, it has rather a bad application in the minds of some people, and I am afraid as you came along in the trolly cars this morning you feared it was too wide open in certain directions, but I would like to assure you our city is wide open to receive you. This church is a type of the good feeling of the city. We are glad to receive you under the sweet influences of our religious site. The homes of our people, as you know, if you have at all read the program laid out for your entertainment, are wide open, too, and the hearts of the people have long ago been touched by the sweet influences of the service of representatives of your profession here, and they are all open to you; I do not quite know how to commend the town to you, it commends itself. The morning is not, perhaps, as bright as we would like it to be, but there are some things that are so bright and so dazzling when seen in the fullness of their beauty that it is more than human vision can bear to look upon, so, like the face

of Moses when he came down from the mountain, we have requested the Weather Bureau to veil the beauties of the city this morning, that they may break gradually and you may take them in. We are accustomed to praise our city for its beautiful historical associations. You have heard something of those from Dr. Doolittle. We are accustomed to praise it for its health, but I will forbear on that subject, for possibly that might not interest you. For its influence on the college on our beautiful hill we have few complaints and no desires. You can realize, therefore, that it is a very happy place in which to dwell, and it is a very happy place for you who represent the Hahnemannian system to visit, because I believe you make even the departure from this world as sweet and pleasant as it is possible to be. Most of us, I am afraid, like the woman in the Bible, have suffered many things from many physicians. I will not say we are no better, but at least we all know some ideas which have in the past hindered the progress of medical science. I suppose everything must have its victims. We of the college tell parents we guarantee satisfaction or return the boy. When we prove it by returning the boy occasionally his parents are not as much pleased as we expected them to be. Our city is a city that is very winning. I came here some fourteen years ago to spend ten days. I was so attracted that I have now been here thirteen years. In every way we are a delightful city. There is no exception to be made, and the only thing that is to be impressed upon you at this time is that you must hoard your strength so that you will have enough to climb the hills that lead to the front of the college. We believe in making strong men, and we begin by teaching them to climb that hill. We have made some of your best physicians on the hills of Lafayette College. We have trained them into lines of punctuality. The chapel bell may not ring for you, but in the afternoon the laboratories will be open for your inspection. The buildings are open to you whenever you may find time to visit them. The grounds are at your command. I believe one of the things for which you came here is to listen to papers, but my experience of conventions is that very few really do. At commencement time we supply a great flood of literature that fills three or four days, but I observe that a great number of those who attend spend much of their time out on the campus. If persons who are to read papers will excuse me for saying so, we shall welcome to our campus as many members of this convention and ladies attending them as find it pleasant to come there. There is one thing in

which we are not homœopathic, that is our athletics. I do not know how we can reduce them to your system. I may suggest that one of the pills used by us is rather large according to your ideas and some of the cities of our State, Philadelphia, for instance, have found it rather hard to swallow. Enjoy yourselves all you can while among us. The writers of the papers will offer you certain problems. Reduce them, as far as you find it possible, to a working basis; but whatever you do, remember that you have given us pleasure in coming, and the longer you stay and the more of the opportunities that are offered to you you take advantage of the better we shall like it. On behalf of the united citizens of our city I bid you a very hearty welcome.

RESPONSE TO ADDRESS OF WELCOME.

THEODORE SURETH, M. D., SCRANTON.

Mr. Chairman, Ladies and Gentlemen of Easton:

The very kind and open welcome given the Homœopathic Medical Society of the State of Pennsylvania by your speaker, I am sure, will be very much appreciated by those of the Society who have the good fortune to visit your beautiful city. In all the walks of life to-day that is a growing tendency towards improvement, investigation, discovery, invention, and in nothing is this more marked than in the medical profession. I have but to refer to the stripping of the capsule of the kidney for the cure of chronic Bright's disease, the bloodless operation for the correction of congenital dislocation of the hip, the microscope, which has placed the bacteriologist in the front rank of fame, to prove the correctness of my statement. It, therefore, becomes the duty of every physician, it matters not where he is located, to associate himself with a medical society, pay his dues, attend its meetings, and avail himself of all its benefits and the advantages to be gained, not only for the relief and care of disease, but for its prevention. The latter, it seems to me, should be foremost in the mind of the physician. When the State Society met in Scranton last year, our worthy colleague, Dr. Seibert, of your city, responded to the address of welcome. Among other things he predicted a banner meeting for Scranton, the credit of which should be laid at the feet of the Lackawanna County Medical Society, of which I am a member. We felt very grateful to the doctor; but O! how

bitter the disappointment that his prediction was not realized. Nor did we feel that it was due to any false prophecy on the part of the doctor. We felt that the doctor was justified in predicting a banner meeting for Scranton judging from the success of the first meeting held there. Many were called but few responded. Perhaps there are those of the Society who, like Alexander the Great, sigh for new worlds to conquer. If that is the case, it seems to me a new place of meeting every year would correct this trouble. We are told that a new broom sweeps clean. Perhaps this new broom, as it were, would be a very efficient instrument to get down in the corners and dislodge, as it were, the element in the profession who seem derelict in their duty, not only to the Society, but to their patients. Perhaps in this way we may arouse their curiosity and appeal to their desire for knowledge. You doctors of Easton and vicinity, together with your many kind friends, have spared nothing to make the social features of this meeting a success. Dr. Kline and his associates have worked hard to prepare a program replete with good papers by able men. Your beautiful city, as it has been described by the speakers of the day, together with its tower of learning, Lafayette College, is an interesting center. These three certainly make a strong combination which should attract every physician of the Society, and without a full representation I feel that you will not receive your just reward. I am sure all the members who will attend the State Society meeting in Easton will not only enjoy your kind hospitality, but will return to their homes with material which will enable them the better to care for the sick. Again allow me to thank you for this kind welcome.

The President, Dr. D. C. Kline, thereupon, delivered the following:

ADDRESS OF THE PRESIDENT.

Ladies and Gentlemen, Members of the Homœopathic Medical Society of the State of Pennsylvania:

This Society feels greatly honored in having as her host at this session the Lehigh Valley Homœopathic Medical Society, said to be the oldest homœopathic medical organization in this country, if not in the world, having come into existence about the time of the establishment of the first homœopathic medical college in this country, which was located in the neighboring city of Allentown. It is,

indeed, very gratifying to see this ancient organization so active and youthful in spirit and energy, full of enthusiasm and good works. She is certainly teaching other organizations a great lesson in the way of entertaining the State Society.

Then, too, how appropriate that this State organization should hold its annual meeting in this educational and classical city of Easton, noted as an important seat of learning, particularly because of Lafayette College; for the Homœopathic Medical Society of the State of Pennsylvania has always stood for the higher and more advanced education.

A city or town is always influenced for good by an institution of learning in her midst. There is a tone and grade of refinement about the people that you do not find elsewhere, and this is particularly true of Easton, with this dignified old Lafayette, which is part and parcel of the city.

While this college has had her dark days (as is the case with all institutions), she has been exceptionally fortunate, and advanced under the present administration, and we pray for her even greater success. Her alumni, as you know, are scattered throughout the country, not a few being members of this Association.

My next expression must be to signify to this Society my grateful appreciation of the honor conferred upon me at the meeting one year ago, held in that wide-awake city of Scranton, when you elected me to preside over your deliberations at this, the fortieth session.

If you measure my appreciation of the compliment by the results obtained, it may seem not to be very great, but if it is estimated by the amount of energy and nerve force expended in the interest of this Society and the profession, it will prove to you that I am not unmindful of the honor.

The one feature that has been highly gratifying to me was the unanimity with which the chairmen of the various sections, as well also the associates and committees, the secretaries, with other personal friends of the Society, have responded to appeals for counsel and work. All have been most cordial and pleasant. Hence, to all who in one way and another aided in making this meeting whatever degree of success it may attain, I wish to express my high appreciation.

It would seem quite superfluous for me to give any outline of the science of Homœopathy, or perhaps of its growth in this annual

address, as it is a foregone conclusion that every homœopathic physician is more or less conversant with these truths. However, there are a few important matters which I desire to emphasize to this Society and the profession in general.

One year ago, my worthy predecessor in office, Dr. Haines, told you that "it was high noon in the homœopathic school, the successful outcome of a century of effort." He told you of the brave showing of our colleges, hospitals, dispensaries and medical journals, of the standing of our specialists, that our clientele the world over were truly representative, and warned us in view of the great responsibilities the danger of a state of apathy following.

Since assuming the office of president of this Society, and becoming somewhat conversant with the profession, I can but believe that this warning came none too soon. There is a certain amount of inborn selfishness in every individual, and perhaps the nature of a physician's life is such as to tend to develop this undesirable trait of character. Hence, he grows to live too much unto himself, although we are authoritatively told that "No man liveth unto himself alone."

Homœopathy has made great progress in the past, but not nearly what she could have done if each individual physician had been a little broader and looked beyond the confines of his own personal success, and thus worked for the good of the cause and of humanity, for this would have advanced Homœopathy at large and then have rebounded to him again, helping the individual to advance and become broader in mind and more successful thereby. This has been demonstrated time and again during the six months past. When physicians have been solicited to join this State Society, the remark has frequently come back, "it will cost me five dollars a year, and what good will it do me."

My reply is that it will repay any man tenfold, benefit Homœopathy and humanity at large. These annual meetings, with the published transactions, are equivalent to a special course in medicine, if you avail yourself of all the privileges, not even mentioning the social side.

The "public press" is constantly teaching and keeping the public informed as regards the progress of medicine; hence, the physician of to-day must be able to talk intelligently and answer questions skillfully. These meetings are a training school for us all to become more conversant with medical literature and thereby grow refreshed, for—

"Universal plodding poisons up
The nimble spirits in the arteries."

And—

"There's a lot of things that never go by rule;
There's an awful lot of knowledge
That you never get at college;
There's a lot of things you never learn at school."

The man who does not save the dollars will never see the thousands, and thus, if we do not unite our individual strength (whether it be little or much) with that of others, we, as a profession, can never succeed, and as individuals we will only press forward in proportion as the whole body of the professions goes.

What degree of success has come to Homœopathy in the past has been largely due to the great efforts of comparatively few. The standing of the profession in most communities is very largely due to a small proportion of the physicians resident there, and others simply hang on. Our colleges and hospitals have been built up and advanced by a handful of men; our Homœopathic State Hospital for the Insane of Pennsylvania, being erected near here and marks the greatest advance Homœopathy has ever had in this State, is only visible because of the great efforts and enthusiasm of a few men. Whereas, the truth is that it would have been erected twenty years ago if the profession had united properly and worked enthusiastically for it.

The men in the medical profession, as elsewhere, who live useful lives and are known and remembered by their deeds, are those who work for the common good of all, who endeavor to uplift the profession, are broad in their ideas, who live and let live. This we owe to others and those who come after us.

In the earlier years of Homœopathy, physicians devoted almost their entire time and energies to the study of Materia Medica and prescribing. This was essential and absolutely necessary in order to develop the science and make an impression; later, it was recognized that this was too much one-sided, and surgery and all other allied branches were taken up and gradually developed, as you well know, until to-day our specialists rank second to none in the land; but like the pendulum of the clock, we have swung clear over, until we have begun to neglect the Materia Medica, and it is seemingly

time that we return to the "middle of the road;" hence, the "American Institute of Homœopathy" has made a wise beginning, and at the last session organized an "Institute of Drug Proving," appointed a board of trustees to take up the work, solicit funds, and endeavor to engage the earnest co-operation of physicians in making careful scientific provings of drugs. First, as far as possible to corroborate the evidence of the earlier provers, and make whatever new developments it is possible to attain by doing honest work and making thorough investigations; as it is well recognized that Hahnemann and the earlier investigators and promulgators were human, therefore, not infallible, and if it should be demonstrated that in any particular they were in error, we want to know it. If they were right, let us prove them so, but not be satisfied simply because they told us certain things.

Now, with these lessons and truths of the past, what shall the future be? Are we willing to do our share, whether it be great or small?

A portion of all that is coming to the medical profession in this State is ours by right and inheritance, and if we manifest our determination to share it, there is no question but that the public will be willing that it comes to us. But we must work for it, first, by proper organization, and the "American Institute of Homœopathy" has made a beginning in this matter by changing the By-Laws to the effect that "membership in the State Society is a prerequisite to membership in the Institute," thereby you may be admitted to the Institute without the initiation fee of two dollars.

It is a question whether this should not be extended and our By-Laws so changed as to make it necessary that an applicant for membership in this Society should be a member of some county or local society, and the first year's dues be changed to three dollars. This latter might be some encouragement to the younger physicians to join.

A few of us, having constituted ourselves into a committee on membership this year, have found that in some instances physicians were only needing an invitation to join the Society, and the results have been quite gratifying, as we have more applicants for admission to membership at the opening of this session than have ever been admitted in one year since the organization of the Society, but even this number should be doubled. Therefore, I would recommend that

a temporary committee be appointed during this session whose duty it shall be to seek to enlarge the membership, and to encourage and assist in the organization of county and local societies, and would further suggest that these county and local societies hold district meetings occasionally. At the same time let each member endeavor to persuade one homœopath to join this Society and work in every way possible to advance Homœopathy, and we will then have the largest and probably best organization of the kind in the Union, which would then be commensurate with the dignity of the State.

Another matter that I feel it incumbent upon me to call your attention to at this time is the tendency to commercialism in the medical profession. Men are resorting to various questionable methods for personal aggrandizement that would not have been dreamed of a few years ago. The quack and the charlatan are to be found on all sides, and very often appearing in sheep's clothing, with that suave manner or brass trumpets to attract and hold the gullible public. This has been caused very largely by two influences, viz., the overcrowding of the profession with a desire to gather in the shekels more rapidly and an attempt to overcome the detrimental influences of the abuse of the hospital and dispensary, which are so frequently managed largely by laymen who have no thought or regard for medical ethics, because they cannot estimate the importance and bearing of it. Hence, there is a great amount of work being done in these institutions under the role of charity for individuals and corporations who are quite capable of paying a reasonable sum in compensation, but the attending physician or surgeon must of necessity render professional skill free because he is a member of the staff. In other words, the profession is very greatly imposed upon.

Commercialism of questionable methods is so rampant in the business world, as is shown by Mr. Thomas W. Lawson, under "Frenzied Finance," in recent numbers of a popular magazine, that it creeps into the professions (legal, clerical and medical), until men come to feel that anything or any way will do so long as you gain the desired object, or as a certain business man put it, if you see a five dollar bill get it, if you must trample down your own brother in so doing.

The club or lodge organizations which employ physicians for a paltry sum to attend their members are growing, and will become more numerous unless the medical profession stamps them with the hand of disapproval, and brands the physician who would belittle

himself and the profession by so doing. This, however, makes it more important that the better class of physicians should endeavor to be more thoroughly ethical in all their professional relations and conduct, particularly in the management and work of institutions.

We should endeavor to cultivate in the profession higher and loftier ideas, separating more from the low and sordid commercial methods, although not thereby neglecting the upright, straightforward business side of the profession, which is thoroughly proper and legitimate.

There is no agency by which this can be accomplished more effectually than through our State and county societies. Our college curriculum should contain a special course of instruction to the students, relative to medical ethics and the legitimate business side of the profession, the relation and conduct between physicians and their patients, for many times these breaches between a physician, his brother practitioner and the patient are simply due to ignorance as to what is proper and right. If it is true that "good manners are equivalent to a bank account," it is doubly so here, where the close relations exist as must be between brother physicians and their patient.

Indeed, with all the educational training the newspapers and magazines are giving the public, it would seem that a valuable field has been overlooked, for they might render good service by enlightening the public as to their privileges and duties toward one who must be so familiar in the household as the physician, and who many times holds the closet secrets of the family; at least teach them to practice the "Golden Rule" occasionally.

The practical up-to-date physician must constantly be on guard for the public, and in doing his duty will not infrequently meet with objections. How often are we importuned to conceal contagious or infectious diseases, or to report the case as other than what it really is. But we cannot yield and be honest. It is not fair to friends and neighbors. However, as a rule, a little explanation and solicitation on our part, and the American public will yield to law and reason.

We must constantly uphold the "Board of Health," and it is a very hopeful sign of the times to see them taking the stand regarding the contagion of consumption, requiring that all such cases be reported and as far as possible isolated, and disinfectants used in order to avoid the spread of the dread disease as is being done in my home city.

The outdoor life for consumptives should be encouraged, and we should do our part in the work of establishing these settlements of tent life, urging cities, counties and the State to take up the work, in order to get the consumptive removed from his hovel or home where he is constantly infecting the children and others around him, for there is no doubt but that consumption is rapidly becoming the American scourge, and if not checked, will prove ruinous to the race.

Municipal hospitals for the treatment of scarlatina, diphtheria and measles should likewise be urged, for the ravages of these diseases are almost as greatly to be dreaded as is small-pox.

We should urge the next Legislature to pass a bill regulating the manufacture and sale of firearms and explosives for the Fourth of July celebration, thus calling a halt in willfully crippling and maiming children, thereby making them objects of pity and charity for life, or even worse, death ensuing directly, or through the development of that dread disease, tetanus, causing a frightful and shocking death. If in any sense we are our "brother's keeper" it surely applies here.

Again, it has long since been a question to my mind whether State or National legislation should not be enacted prohibiting the marrying of criminals and degenerates, thus endeavoring to prevent the propagating of their kind, as with such an inheritance, and the subsequent environments for a child, it is next to impossible for aught but a villain to develop, and this poor miserable creature will then live a life of shame, proving of no earthly benefit to himself or the community. Hence, if blood tells, or heredity counts for aught, it surely does here, and if we propose to reform the race let us begin at the root of the evil.

In conclusion, let me urge all members of this Society to enter earnestly into the work before us, and we extend a most cordial invitation to all visiting physicians in attendance, regardless of system or school practiced, to take part in the discussions, and be one with us during this session.

On motion, the roll call was omitted and members of the Society were requested to communicate with the Corresponding Secretary whenever they changed their address or where they notice any error in the listing of the residence of a member.

REPORT OF THE CORRESPONDING SECRETARY.

The Corresponding Secretary reported that the routine work of the office had been performed as usual during the interim of the meetings. There was nothing of interest to report, except that the President had appointed a committee to present to the Board of Medical Examiners representing the Homœopathic Medical Society of the State of Pennsylvania the views held by many members of the profession that the students who have passed their final examination in anatomy, physiology, chemistry and histology should be allowed to present themselves for examination by the State boards immediately after their college examination.

Also, that a communication had been received from Cressy L. Wilbur, M. D., expert special agent in charge of the extension of the registration area in the United States (Bureau of the Census), asking that a committee be appointed to co-operate with the Pennsylvania State Board of Health and others in attaining a proper registration of vital statistics. (This matter was, on motion, referred to the Legislative Committee for action.)

He also reported having arranged a tentative program for the session, which was, on motion, adopted.

ORDER OF BUSINESS.

TUESDAY, SEPTEMBER, 20, 1904.

Morning Session, 10:30 *to* 1 *O'Clock.*

1. Call to order.
2. Invocation.
3. Address of welcome.
4. Response to address of welcome, Theodore Sureth, M. D., First Vice-President.
5. Address of President, D. C. Kline, M. D.
6. Roll call.
7. Report of Corresponding Secretary.
   Adoption of program.
8. Report of Trustees.
9. Report of Committees.

a. Organization, Registration and Statistics, George B. Moreland, M. D., Chairman.

b. Legislation, D. P. Maddux, M. D., Chairman.

c. Publication, E. M. Gramm, M. D., Chairman.

10. Report of Delegate to American Institute of Homœopathy, Dr. J. H. McClelland; Alternate, Dr. W. A. Seibert.

11. Report of Delegates to the Interstate Committee of the American Institute of Homœopathy, Drs. B. F. Betts and F. W. Boyer.

12. Report of the Necrologist, Chandler Weaver, M. D.

GYNÆCOLOGY.

Wm. Alvah Stewart, M. D., Chairman.

Associates—Drs. B. F. Betts, Millie J. Chapman, Theodore L. Chase, N. F. Lane, J. H. McClelland.

W. A. Stewart, M. D., Pittsburg, "Gynæcology for the General Practitioner."

B. F. Betts, M. D., Philadelphia, "The Physician's Obligation in the Care of Obstetrical Cases."

Millie J. Chapman, M. D., Pittsburg, "Medical Gynæcology."

T. J. Gramm M. D., Philadelphia, "Post-Operative Intestinal Paralysis."

T. L. Chase, M. D., Philadelphia, "Diseases of the Fallopian Tubes."

N. F. Lane, M. D., Philadelphia, "Retro-Displacements of the Uterus."

Afternoon Session, 3 to 6 O'Clock.

PATHOLOGY AND PATHOLOGICAL ANATOMY.

T. J. Gramm, M. D., Chairman.

Associates—Drs. J. E. Belville, J. M. Caley, J. D. Elliott, W. C. Goodno, E. M. Gramm, I. W. Heysinger, W. K. Ingersoll, W. H. Lyle, Trimble Pratt, J. T. Ridge, J. J. Thompson, R. E. Tomlin, J. J. Tuller, S. C. Webster, R. T. White.

T. J. Gramm, M. D., Philadelphia, "The Parasitic Origin of Carcinoma."

W. F. Baker, M. D., Philadelphia, "Locomotor Ataxia; a Case With Report of Autopsy and Illustrations of Microscopic Slides."

J. E. Belville, M. D., Philadelphia, "Early Operation in Appendicitis, From a Pathological Standpoint."

H. M. Gay, M. D., Philadelphia.

C. S. Raue, M. D., Philadelphia, "An Unusual Case of Diphtheria; Nasal Intubation; Recovery."

J. C. Guernsey, M. D., Philadelphia, "Diacetic Acid in Diabetes."

I. W. Heysinger, M. D., Philadelphia, "Advanced Biology With Relation to Homœopathic Principles."

R. E. Tomlin, M. D., Philadelphia, "Pathology of the Puerperium."

A. W. Yale, M. D., Philadelphia, "A Case of Appendicitis in a Large Femoral Hernia."

Pædology.

Anna D. Varner, M. D., Chairman.

Associates—Drs. F. M. Boyer, Mary Brewer, Anna C. Clarke, I. B. Gilbert, E. S. Haines, A. S. McDowell, F. L. Muth, Margaret H. Schantz, Leon Thurston, Chandler Weaver.

Anna D. Varner, M. D., Wilkinsburg, "Diseases of Children and Their Influence on the Health of the Adult."

Mary Brewer, M. D., Philadelphia, "A Case of Infantile Paralysis."
Discussion to be opened by I. B. Gilbert, M. D.

E. S. Haines, M. D., Rutledge, "Convalescence."
Discussion to be opened by T. M. Johnson, M. D.

Julia C. Loos, M. D., Harrisburg, "Observation of Symptoms in Children."
Discussion to be opened by F. M. Boyer, M. D.

A. S. McDowell, Reading, "Typhoid Fever in Children."
Discussion to be opened by Anna C. Clarke, M. D.

F. L. Muth, M. D., Wilmerding, "Marasmus."

Leon Thurston, M. D., Pittsburg, "Some Interesting Cases."

Chandler Weaver, M. D., Philadelphia, "Some Points in the Care of Young Babies."
Discussion to be opened by Margaret H. Schantz, M. D.

Evening Session, 8 to 10:30 O'Clock.

Surgery.

J. L. Peck, M. D. Chairman.

Associates—Drs. T. L. Adams, L. T. Ashcraft, G. M. Christine, E. R. Gregg, J. W. Hassler, D. P. Maddux, G. B. Moreland, H. L. Northrop, E. T. Prizer, S. M. Rinehart, C. P. Seip,

W. G. Steele, G. A. Van Lennep, W. B. Van Lennep, L. H. Willard.

J. L. Peck, M. D., Scranton, "Some Thoughts on Latter Day Surgery."

G. M. Christine, M. D., Philadelphia, "The Evolution of Medicine Into Surgery."

E. R. Gregg, M. D., Pittsburg, "Excision of the Elbow Joint."

G. B. Moreland, M. D., Pittsburg, "Fissure in Ano."

H. L. Northrop, M. D., Philadelphia, "Movable Kidney."

W. B. Van Lennep, M. D., Philadelphia, "A Few Thoughts Concerning the Surgery of the Upper Abdomen."

WEDNESDAY, SEPTEMBER 21.

Morning Session, 9:30 to 1 O'Clock.

SANITARY SCIENCE.

R. L. Piper, M. D., Chairman.

Associates—Drs. J. D. Boileau, S. G. A. Brown, H. C. Chisolm, Isaac Crowther, A. L. Kistler, W. E. Rotzell, E. H. Morrow, W. A. Weaver.

R. L. Piper, M. D., Tyrone, "Sanitary Clothing."

J. D. Boileau, M. D., Philadelphia, "Food Impurities and Adulterations."

S. G. A. Brown, M. D., Shippensburg, "Bad Effects of Overheated Houses."

H. C. Chisolm, M. D., Huntingdon, "The Family Physician and His Relation to Hygiene."

Isaac Crowther, M. D., Chester, "A Plea for a Closer Relation of Physicians and Health Boards."

CLINICAL MEDICINE.

F. M. Lawrence, M. D., Chairman.

Associates—Drs. Clarence Bartlett, J. A. Bullard, E. L. Clark, J. W. Coolidge, G. M. Golden, O. S. Haines, W. A. Haman, W. J. Martin, W. C. Powell, C. C. Rinehart, W. W. Seibert, E. R. Snader, W. W. Van Baun, Robert Walter, M. D. Youngman.

F. M. Lawrence, M. D., Philadelphia, "The Present Status of the Uric Acid Question."

J. A. Bullard, M. D., Wilkesbarre, "Symptom Chasing."

G. M. Golden, M. D., Philadelphia, "The Diagnosis of Aortic Aneurism, With Demonstration of a Case."

W. J. Martin, M. D., Pittsburg, "Some Sure Things."

W. W. Seibert, M. D., Easton, "The Diagnostic Value of the Normal Constituents of Urine."

E. R. Snader, M. D., Philadelphia, "The Frequency of Phthisis Pulmonalis in Infancy and Childhood."

W. W. Van Baun, M. D., Philadelphia, "The Heart in Typhoid Fever."

Robert Walter, M. D., Walter's Park, "The Nature of Disease."

Afternoon Session, 3 to 6 O'Clock.

MATERIA MEDICA.

Aug. Korndœrfer, Sr., M. D., Chairman.

Associates—Drs. A. P. Bowie, T. H. Carmichael, Edward Cranch, J. C. Guernsey, C. S. Middleton, Z. T. Miller, Charles Mohr.

Aug. Korndœrfer, Sr., M. D., Philadelphia, "A Few Thoughts on Our Materia Medica."

A. P. Bowie, M. D., Uniontown, "Our Indigenous Remedies."

T. H. Carmichael, M. D., Philadelphia, "Loyalty to the Pharmacopœia."

Discussion to be opened by Charles Mohr, M. D.

Edward Cranch, M. D., Erie, "Calcarea carb., Kali carb. and Graphites."

Discussion to be opened by C. S. Middleton, M. D.

J. C. Guernsey, M. D., Philadelphia, "The Prophylactic Power of Drugs."

Z. T. Miller, M. D., Pittsburg, "A Fragmentary Proving of Trifolium prætense."

WEDNESDAY EVENING.

Members and visitors will be entertained by the Lehigh Valley Homœopathic Medical Society at a theatre party in the Able Opera House.

THURSDAY, SEPTEMBER 22.

Morning Session, 9:30 to 1 O'Clock.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

D. W. Harner, M. D., Chairman.

Associates—Drs. G. H. Haas, H. F. Schantz, Wm. Spencer, J. W. Stitzel, C. M. Thomas, H. B. Ware, H. S. Weaver.

D. W. Harner, M. D., Philadelphia, "Homœopathic Remedies in Eye Diseases."

Discussion to be opened by Wm. Spencer, M. D.

G. H. Haas, M. D., Allentown, "Eye Strain: Its Causes and Treatment."

Discussion to be opened by H. F. Schantz, M. D.

H. F. Schantz, M. D., Reading, "Internal and Local Remedies as Compared With Local Treatment."

J. W. Stitzel, M. D., Hollidaysburg, "Some Reflexes from Eye Strain."

Discussion to be opened by H. S. Weaver, M. D.

H. B. Ware, M. D., Scranton, "Report of Cases."

H. S. Weaver, M. D., Philadelphia, "Nasal Obstruction: Its Causes and Results."

OBSTETRICS.

J. E. James, Jr., M. D., Chairman.

Associates—Drs. A. L. Baker, A. W. Baker, C. F. Bingaman, J. W. Dehoff, Aug. Korndœrfer, Jr., E. W. Mercer, Emma T. Schreiner, J. H. Thompson, E. S. Snyder, A. C. Shute.

J. E. James, Jr., M. D., Philadelphia, "Chorio-epithelioma, Malignum: Report of a Case: Resume of the Histology and Pathology."

Discussion to be opened by A. Korndœrfer, Jr., M. D.

A. L. Baker, M. D., Altoona, "Management of a Case of Labor."

J. W. Dehoff, M. D., York, "Criminal Abortion."

Aug. Korndœrfer, Jr., M. D., Philadelphia, "Critical Study of Two Hundred Pelves in Pregnancy."

Discussion to be opened by A. W. Baker, M. D.

Emma T. Schreiner, M. D., Philadelphia, "Hospital versus Home Care of Confinement Cases."
Discussion to be opened by A. C. Shute, M. D.

E. S. Snyder, M. D., Lancaster, "Toxæmia of Pregnancy and Albuminuria and Their Treatment."

J. H. Thompson, M. D., Pittsburg, "Extra-Uterine Gestation, With Report of Two Cases."
Discussion to be opened by T. L. Chase, M. D.,

Afternoon Session, 3 to 6 O'Clock.

Conclusion of Reports of Sections and Discussions.
Final Report of the Board of Censors.
Unfinished Business.
New Business.
Election of Officers.
Selection of Place for Next Meeting.
Adjournment.

REPORT OF THE BOARD OF TRUSTEES.

The Board of Trustees reported that they had held a special meeting in March, and that they had attended to such business of the Society as came within their province.

REPORT OF THE COMMITTEE ON ORGANIZATION, REGISTRATION AND STATISTICS.

To the Homœopathic Medical Society of the State of Pennsylvania:

Your Committee on Organization, Registration and Statistics presents its annual report for publication. A list of the local societies and the hospitals and dispensaries under our control is given, and detailed statement of data obtainable concerning them is placed at your disposal.

We desire, through the medium of this report, to thank all who have answered our requests for information.

Respectfully submitted,

GEORGE B. MORELAND, M. D.,
Chairman.

HOMŒOPATHIC MEDICAL SOCIETIES

NAME.	PRESIDENT.
Lehigh Valley Homœopathic Medical Society.	E. D. Doolittle, M. D., Easton.
Homœopathic Medical Society of Northeastern Pennsylvania.	A. M. Mannel, M. D., Hallstead.
Homœopathic Medical Society of Philadelphia County.	L. P. Posey, M. D., Philadelphia.
Homœopathic Medical Society of Allegheny County.	H. W. Fulton, M. D., Pittsburgh.
Homœopathic Medical Society of the 23rd Ward, Philadelphia.	H. W. Nuss, M. D., Philadelphia.
Homœopathic Medical Society of Schuylkill County.	Ellwood K. Steckel, M. D., Orwigsburg.
Alumni of Hahnemann Medical College of Philadelphia.	Wm. B. Van Lennep, M. D., Philadelphia.
Homœopathic Medical Society of Beaver County.	T. L. Blackledge, M. D., New Brighton.
Germantown Homœopathic Medical Society of Philadelphia.	Chas. M. Brooks, M. D., Philadelphia.
Hahnemann Club of Philadelphia.	Thomas S. Dunning, M. D., Philadelphia.
Oxford Medical Club of Philadelphia.	T. L. Chase, M. D., Philadelphia.
Woman's Homœopathic Medical Club of Philadelphia.	Julia G. Waylan, M. D., Philadelphia.
Bœnninghausen Medical Club of Philadelphia.	T. P. Gittens, M. D., Philadelphia.
Homœopathic Practitioners' Association of Reading.	C. M. Richards, M. D., Reading.
A. R. Thomas Club of Philadelphia.	E. W. Mercer, M. D., Philadelphia.
Saturday Night Club of Microscopists.	Joseph C. Guernsey, M. D., Philadelphia.
Philadelphia Clinical Society.	Chas. M. Thomas, M. D., Philadelphia.
Philadelphia Medical Club.	P. Sharples Hall, M. D., Philadelphia.
East End Doctors' Club.	J. H. McClelland, M. D., Pittsburgh.
Homœopathic Pharmaceutical Association of Pennsylvania.	F. J. Slough, M., D., Allentown.
Homœopathic Medical Society of Delaware County.	Isaac Crowther, M. D., Chester.
Homœopathic Medical Society of Chester County.	B. G. Arnold, M. D., Downingtown.
Homœopathic Medical Society of Luzerne County.	Sarah J. Coe, M. D., Wilkesbarre.
Homœopathic Medical Society of Lackawanna County.	G. J. Berlinghof, M. D., Scranton.
Philadelphia Medical and Surgical Society.	L. T. Ashcraft, M. D., Philadelphia.

OF THE STATE OF PENNSYLVANIA.

Secretary.	Organized.	Incorporated.	Meetings.	Number of Members.	Dues
A. J. Bittner, M. D., Allentown.	1881	Not.	Bi-Monthly.	30	$1.00
Theo. M. Johnson, M. D., W. Pittston.	1882	"	Semi-Annually.	34	2.00
O. B. Wait, M. D., Philadelphia.	1866	"	Monthly.	289	1.00
H. S. Nicholson, M. D., Allegheny.	1864	"	"	78	2.00
John D. Boileau, M. D., Philadelphia.	1881	"	"	30	1.00
E. H. Maurer, M. D., Ashland.	1882	"	Quarterly.	26	1.00
W. D. Carter, M. D., Philadelphia.	1857	"	Annually.	1626	1.00
Wm. Raymer, M. D,, Beaver Falls.	1881	"	Monthly.	11	1.00
L. W. Thompson, M D., Philadelphia.	1883	"	"	101	1.00
O. S. Haines, M. D., Philadelphia.	1872	"	"	8	None.
C. W. Simmons, M. D., Philadelphia.	1885	"	"	17	2.00
Margaret C. Lewis, M. D., Philadelphia.	1883	"	"		None.
Geo. W. Smith, M. D., Philadelphia.	1877	"	"	9	2.00
C. R. Haman, M. D , Reading.	1896	"	"	12	1.00
A. A. Norris, M. D., Philadelphia.	1888	"	"	21	None.
Wm. F. Baker, M. D., Philadelphia.	1899	"	"	70	2.00
W. H. Bigler, M. D., Philadelphia.	1880	"	"	9	None.
Edwin H. Van Deusen, M. D., Philadelphia.	1882	"	"	13	None.
C. I. Wendt, M. D., Pittsburgh.	1895	"	"	18	1.00
E. P. Anschutz, M. D., Philadelphia.	1881	1881	At Call of President.	13	None
Geo. C. Webster, M. D., Chester.	1898	Not.	Monthly.	21	1.00
L. Hoopes, M. D., Chester.	1898	"	Bi-Monthly.	18	1.00
Frank A. Whiteman, M. D., Wilkesbarre.	1889	"	Monthly.	16	None.
Geo. M. DeWitt, M. D., Scranton.	1900	"	"	18	Assessments
Geo. H. Bickley, M. D., Philadelphia.	1900	"	"	20	None.

HOMŒOPATHIC MEDICAL SOCIETIES

NAME.	PRESIDENT.
Women's Homœopathic Medical Association of Pittsburgh.	M. J. Chapman, M. D., Pittsburgh.
Organon Medical Club of Chester.	R. P. Mercer, M. D., Chester.
The Van Lennep Clinical Club.	J. W. Hassler, M. D., Philadelphia.
Goodno Homœopathic Medical Society.	F. M. Henry, M. D., Mt. Joy.
The Homœopathic Medical Society of Delaware, Chester and Montgomery Counties.	H. E. Williams, M. D., Coatesville.
The Homœopathic Medical Society of Lebanon County.	M. B. Gerberich, M. D., Lebanon.
Raue Medical Club of Central Pennsylvania.	A. O. Taylor, M. D., Altoona.

OF THE STATE OF PENNSYLVANIA.

Secretary.	Organized	Incorporated.	Meetings.	Number of Members	Dues.
Ella D. Goff, M. D., Allegheny.	1899	Not.	Monthly.	8	$1.00
D. P. Maddux, M. D., Chester.	1887	"	"		
B. R. Marsden, M. D., Philadelphia.	1895	"	"		2.00
E. T. Prizer, M. D., Lancaster.	1899	"	Quarterly.	30	1.00
Isaac Crowther, M. D., Chester.	1858	"	Bi-Monthly.	68	1.00
F. E. Bamberger, M. D., Lebanon.	1904	"		15	
A. L. Baker, M. D., Altoona.	1896	"	Monthly.	14	2.00

HOMŒOPATHIC DISPENSARIES

NAME.	SECRETARY.	LOCATION.
General Dispensary of the Pittsburgh Homœopathic Hospital.	D. G. Stewart.	Pittsburgh.
Eye and Ear Dispensary of the Pittsburgh Homœopathic Hospital.	D. G. Stewart.	Pittsburgh.
Hahnemann Medical College Hospital Dispensary of Philadelphia.	Wm. G. Foulke.	Philadelphia.
Children's Homœopathic Hospital Dispensary.	Walter Strong, M. D.	Philadelphia.
Hahnemann Hospital Dispensary.	Miss Louise Tenny.	Scranton.
Homœopathic Dispensary of Reading.	Chas. M. Richards, M. D.	Reading.
Dispensary Women's Homœopathic Association of Pennsylvania.	Mrs. F. B. Skinner.	Philadelphia.
*St. Luke's Homœopathic Hospital.	T. H Carmichael, M. D	Philadelphia.

*Report for seven months of 1903.

HOMŒOPATHIC HOSPITALS

NAME.	LOCATION.	SECRETARY OR EXECUTIVE OFFICER.	Incorporated.	Opened to Patients.
Medical, Surgical and Maternity Hospitals of the Women's Homœopathic Association of Pennsylvania.	Philadelphia.	Mrs. F. B. Skinner.	1882	1882
Children's Homœopathic Hospital.	Philadelphia.	Walter Strong, M. D.	1877	1877
Homœopathic Medical and Surgical Hospital.	Pittsburgh.	D. G Stewart.	1866	1866
Hahnemann Medical College Hospital.	Philadelphia.	Chas. Mohr, M. D.	1848	1869
Hahnemann Hospital.	Scranton.	Mrs. Chas. S. Willis.	1897	1897
Homœopathic Medical and Surgical Hospital.	Reading.	W. W. Light.	1890	1891
Woman's Southern Homœopathic Hospital of Philadelphia.	Philadelphia.	Annie M. Miller.	1896	1896
St. Luke's Homœopathic Hospital.	Philadelphia.	Miss M. E. Lewars.	1896	1896
*Beaver Valley General Hospital.	New Brighton.	J. F. Merriman.	1894	1895

*Staff composed of homœopathic nnd allopathic physicians.

OF THE STATE OF PENNSYLVANIA.

Incorporated.	Opened.	No. of New Patients Last Year	Treated Last Year.	Prescriptions Last Year	Out Visits.
1866	1866	3,249	10,504	. .	None.
1866	1866	.	3,514	. . .	None.
1848	1848	33,465	. .	101,101	3,405
1877	1877	. . .	8,804	23,500	4 187
1897	1897	. .	311	640	18
1890	1888	1,558	1,558	5,222	None.
1882	1884	4,271	. .	6 667	970
1896	1896	475	2 329	4,061	None

OF THE STATE OF PENNSYLVANIA.

No of Beds.	Treated Last Year.	Cured.	Relieved	Not Relieved.	Died.	Estimated Value of Property and Grounds	Source of Income
80	1,023	879	32	28	42	$250,000.00	State aid. Donations.
130	524	393	31	2	51	210,000.00	State aid. Donations
140	3,031	2,677			139	400,000.00	State aid Donations.
140	1,860	1,551	67	8	126	1,080,000.00	State aid. Donations
21	370	203	107	19	20	Rented.	State aid. Donations.
22	230	169	46	3	12	35,000.00	State aid Donations.
35	234	150	41	18	10	25,000.00	State aid. Donations.
26	39	26	39	3	2	38,000.00	State aid Donations. State aid Donations

Dr. J. D. Boileau, Secretary, made the following:

REPORT OF THE COMMITTEE ON LEGISLATION.

PHILADELPHIA, September 17, 1904.

To the Officers and Members of the Homœopathic Medical Society of the State of Pennsylvania:

Gentlemen:—The Legislative Committee of the Homœopathic Medical Society of the State of Pennsylvania would submit the following as their report: The Legislative Committee is on the alert for any legislation that may be proposed during the coming session of the State Legislature allowing the uneducated in medicine to practice the art of healing before they shall have been duly qualified by a four years' graded course in medicine, and shall have passed a successful examination before the State Board of Medical Examiners. Your Committtee is also advised that some effort may be made to have a law enacted giving the Medical Council power to revoke licenses for cause. If so, the Committee will carefully consider the subject and take such action as may seem best. It is believed by this Committee that the time has come when the practice of obstetrics by the uneducated and unskillful should be prohibited, and that proper legislation to that end should be enacted.

On motion, the report was received and the Committee on Legislation notified that all the necessary expenses incurred would be honored and paid by the Society.

On motion, the Board of Trustees was instructed to place $200.00 at the disposal of the Legislative Committee.

Dr. J. H. McClelland, delegate to the American Institute of Homœopathy, reported that the last meeting of that body was an exceptionally valuable one.

He called attention to the fact that the Institute passed a resolution making it necessary for an applicant for membership to be a member of his State Society.

Drs. B. F. Betts and F. W. Boyer presented the following

REPORT OF DELEGATES TO THE INTERSTATE COMMITTEE OF THE AMERICAN INSTITUTE OF HOMŒOPATHY.

The delegates appointed to represent this Society in the Interstate Committtee of the American Institute of Homœopathy at its last

meeting at Niagara Falls sent out the following circular letter directed to homœopathic physicians and institutions, from which was obtained much valubale information that was embraced in their report to the Interstate Committee:

"The delegates to the Interstate Committee of the American Institute of Homœopathy, meeting at Niagara, on the 20th of this month, are requested to present a report embracing items of interest to the profession, respecting the status of Homœopathy in their respective States. Will you please forward to my address an account of any addition or contemplated improvement in your hospital, society or club organization? What per cent. of homœopathic practitioners in your vicinity belong to your local society? What is the per cent. of attendance at the meetings of your local society? Are practitioners of Homœopathy affiliated with other practitioners in and health board, hospital or other medical appointment?"

The delegates held several meetings during the sessions and other interesting reports were received and considered. A plan of future action for the Committtee was fully discussed. Without conflicting with the work of other important committees the main features of the Interstate Committee's work seems to center in the effort to secure harmony of action in all important matters concerning the profession's welfare, to strengthen the weak and champion the rights of those who, from lack of influence, are debarred from the privileges secured by great numerical strength. It is expected that through the meeting of delegates State organizations will be able to maintain closer communication with the Institute organization, and vice versa, and that legislative or other action in the interest of one section of he country may be promoted through the experience, counsel and influence of the members from other States or from that exerted by the Institute itself. The work of the Interstate Committtee is important, and when its scope is clearly defined it will have efficient means of communication upon all important features intended to advance the interests of our profession.

Some of the reports called attention to the fact that medical associations not in affiliation with our school of practice were making efforts to induce homœopathic physicians to apply for membership in their societies, and that in all cases they were expected to renounce their allegiance to our law of cure; therefore, the committee asked the Institute to express its disapproval of members of homœopathic societies joining old school societies, unless our law is recognized as

a helpful rule in prescribing. State societies were asked to urge membership in local societies, and by an amendment to the By-Laws no one can in the future be eligible to membership in the Institute unless he be a member of his State society, if one exists, his certificate of membership being accepted in lieu of the initiation fee. Provision was made for the next meeting of the International Congress of Homœopathy to be held in 1906, and over $1,100 were subscribed to the fund to establish a Bureau of Drug Proving.

B. Frank Betts, M. D.,
F. W. Boyer, M. D.

REPORT OF NECROLOGIST.

1891—F. W. Burlingame, M. D., died November 20th, 1903, 218 Sixth avenue, McKeesport, Pa. Dr. Burlingame was born in Mt. Morris, N. Y., July 24, 1859. He attended the public schools and the State Normal School of Genesee, N. Y.; likely graduated from there. He studied medicine with Dr. Dayfoot, of Mt. Morris, N. Y. He graduated from the Homœopathic College of Cleveland. He belonged to the American Institute of Homœopathy, our State Society and the Allegheny County Society. Died with Bright's disease. No children survive him. He belonged to Mt. Morris Lodge, No. 122, Free and Accepted Masons; No. 136, B. P. O. Elks, Royal Arcanum and Knights of Maccabees.

1868—Horace M. Paine, M. D., died December 5, 1903, aged 76 years. He was graduated from the University of the City of New York in 1849. He was one of the founders of the Homœopathic Medical Society of the State of New York in 1850, and served it later as Secretary and President. He served for twenty-one years as one of the State homœopathic examiners, an incorporator of the Middletown State Hospital for the Insane, and was largely instrumental in securing the legislation establishing the Gowanda State Hospital. He was a senior member of the American Institute of Homœopathy, the Hahnemann Association, member of several local medical societies, honorary member of many homœopathic societies here and abroad, honorary member of our State Society. Lately resided in Atlanta, Ga.

1866—W. H. H. Neville, M. D., died January 22, 1904, 1833 Wallace street, Philadelphia. Born January 7, 1837. He graduated

from the Homœopathic Medical College of Pennsylvania, 1865. He practiced medicine in Philadelphia, and died while on professional calls; paralysis of the heart. He was one of the founders of the Children's Homœopathic Hospital. A member of the American Institute of Homœopathy, of our State Society. A son and daughter survive him. His first knowledge of medicine was obtained through Dr. John R. Reading, of Somerton.

1892—Daniel W. Shoemaker, M. D., died April 27, 1904, of 1924 Green street, Philadelphia, 44 years of age. Graduated from the Hahnemann Medical College of Philadelphia, year of 1881.

1867—B. Barton Gumpert, M. D., died June 23, 1904, 840 Franklin street, Philadelphia, Pa. Born March 1, 1815, at 2d and Callowhill streets, Philadelphia, Pa. Graduated from the Homœopathic Medical College of Pennsylvania, 1853. Retired from active practice only three years ago. He was a senior member of the American Institute of Homœopathy, member of our State Soicety, also of the Franklin Institute. Three sons survive him.

1902—William Gardiner Taylor, M. D., died March 4, 1904, of Columbia, Pa. Born at Darby, Delaware county, Pennsylvania, August 29, 1845. Graduated from the Hahnemann Medical College of Philadelphia, Pa., 1870. First located at Marietta, Pa., then at Columbia. He belonged to Goodno Homœopathic Society of Lancaster, Pa., York and Dauphin counties societies. Died of interstitial nephritis. A widow, daughter and two sons survive him. One son, Dr. Gardiner P. Taylor, Hahnemann, of Philadelphia, Pa., 1904.

1881—Silas Griffith, M. D., died May 21, 1904, of 1431 Girard avenue, Philadelphia, Pa. He graduated from the Homœopathic Medical College of Pennsylvania, 1866. Practiced medicine at the above address until May, 1903. Following attack of apoplexy, he gave up practice and went to reside with a sister, Mrs. M. G. Parker, at Glen Moore, Chester county, Pa. He was a bachelor.

SUMMARY.

1891—F. W. Burlingame, M. D., died November 20, 1903.
1868—Horace M. Paine, M. D., died December 5, 1903.
1866—W. H. H. Neville, M. D., died January 22, 1904.
1892—Daniel W. Shoemaker, M. D., died April 27, 1904.
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1902—William Gardiner Taylor, M. D., died March 4, 1904.
1881—Silas Griffith, M. D., died May 21, 1904.

The old must, while the young may, die. This year I have four of our oldest physicians in years of membership as well as years of age. Dr. Neville joined us in 1866, Gumpert in 1867, and Dr. Paine in 1868. In looking over our membership I find they are the oldest members on our list. Who knows the vast amount of good such long years of service these men have done, yet of late it has not been our privilege to have them with us in these annual gatherings, but they still showed their feeling for humanity and Homœopathy by keeping up their membership with us. In numbers there is strength. And we still need strength to cope for our medical rights and our patients' need in this State of Pennsylvania.

It grieves me to part with any, but it is harder to part with the young workers in our cause, as they should have more years of service.

Though Dr. Griffith was a young member, yet he was a very old practitioner, and had made many converts to Homœopathy.

The physician's life, how very few, except our brothers in the profession, appear to realize just what it means.

It is a life of sacrifice to those who enter it and have become filled with the spirit of the true physician. It is a noble calling, and often, when after long hours of toil, we are tired, weary, and at times discouraged, if we would turn our thoughts to the Great Physican and think of His life, and recall those very busy but also very happy days spent in those little towns of Galilee, going in and out among the people, healing the sick and comforting the afflicted. We read how very often for rest and refreshment He would retire to the solitude of the mountains, there to hold communion with His Father to strengthen Him and prepare Him for the work He had still to perform.

It is a life spent in doing our best for our fellowman, and I think one should feel grateful to our Heavenly Father that He has given to man the knowledge to learn the secrets of nature, that it might enable us to aid those who have disobeyed her, for Dame Nature is very just, she always pays her debts, and those who disobey her must suffer the penalty.

In the lives of our members who have finished their earthly tasks and haveg one to their rewards, we find some true, loyal men, loyal to their Master, loyal to their fellow man, and loyal to Homœopathy.

Men who have not only given of their wealth, but, what is more lasting, their knowledge and a life of active service for the benefit of man and Homœopathy. What greater honor can we pay them than to follow after their good examples, that after this life of toil and anxiety we may hear the Master say, Well done, good and faithful servant. Farewell.

CHANDLER WEAVER, M. D.,
Necrologist.

Dr. E. M. Gramm, Chairman, made the following:

REPORT OF COMMITTEE ON THE EXAMINATION OF STUDENTS.

The committee, consisting of Drs. E. M. Gramm, H. F. Schantz and W. H. Keim, appeared before the Homœopathic State Board of Medical Examiners and presented to them the following memorial:

To the Board of Medical Examiners representing the Homœopathic Medical Society of the State of Pennsylvania.

Gentlemen:—We, Edward M. Gramm, M. D., Henry F. Schantz, M. D., and William H. Keim, M. D., representing the Homœopathic Medical Society of the State of Pennsylvania under the authority and appointed by D. C. Kline, M. D., president of said society, desire to present for your earnest consideration the following preamble and resolution:

WHEREAS, It is the sincere belief of a large number of the homœopathic physicians of Pennsylvania that the present system of examining students for license to practice medicine in Pennsylvania should be altered or amended so as to permit all students to present themselves for examination in anatomy, physiology, chemistry and histology at the close of their sophomore year, thus relieving them from the anxiety of constantly preparing for the same during the junior and senior years, during which time, under the present system, they are hampered, embarrassed and deterred from making their best efforts to excel in the more practical studies of the third and fourth year by the knowledge that the final examination in the aforesaid branches must be held, with many others at the end of their collegiate course.

Resolved, That the Board of Medical Examiners representing the Homœopathic Medical Society of the State of Pennsylvania be re-

quested to take such action as will legally alter or amend the present system of examinations so that students of the sophomore class who have completed the courses in anatomy, physiology, chemistry and histology be accorded an examination in these branches at the end of the sophomore year; and, if passed, be not required to take those examinations at the close of the senior year.

In presenting this preamble and resolution we are actuated only by the belief that the cause of medical education will be greatly advanced, the protection to the community increased and the welfare of the student greatly enhanced thereby.

Your petitioners respectfully submit that the proposed alteration or amendment has been in successful operation under the direction of the Medical Examiners of the State of New York, and, we are credibly informed, the result of such examinations has been accepted by your honorable body. If such be the facts, we are only asking the same consideration and fairness for the students of medicine in this State. And, further, we believe and suggest that the perpetuity of the city of Philadelphia as a center of medical education largely depends upon this change being made, as the student will naturally seek that Commonwealth which affords him the best opportunities for securing an education while, at the same time, by beneficent laws or systems, it protects his physical and mental well-being while affording ample protection to the Commonwealth.

Respectfully submitted,

EDWARD M. GRAMM, M. D.,
Chairman;
HENRY F. SCHANTZ, M. D.,
WM. H. KEIM, M. D.,
Committee.

To this the following reply was made:

Commonwealth of Pennsylvania.

BOARD OF MEDICAL EXAMINERS, HOMŒOPATHIC MEDICAL SOCIETY.

E. M. Gramm, M. D., Secretary of the Homœopathic Medical Society of State of Pennsylvania:

Dear Doctor:—Moved by Dr. Cranch, and seconded by Dr. Middleton, that the petition presented by the Special Committee representing the Homœopathic Medical Society, of Pennsylvania, to the

Board of Medical Examiners representing the Homœopathic Medical Society of Pennsylvania, to urge a change in the laws governing the examination of applicants so that they may have the privilege of passing their examinations in anatomy, physiology, chemistry and histology at the close of their sophomore year, be received and recommended for favorable consideration by the Legislative Committee representing the Homœopathic Medical Society of Pennsylvania." Carried unanimously.

J. C. GUERNSEY,
Secretary.

The action of the committee was imparted to Dr. C. M. Thomas, dean of the Hahnemann Medical College, who acknowledged the receipt of the information. It was thought that the college authorities were interested in the matter and should be acquainted with the sentiments of the profession on the subject.

On motion, the report was accepted and the committee discharged with the thanks of the society.

On motion, the matter was referred to the Committee on Legislation to take such action upon it as would become necessary at the proper time.

REPORT OF THE BOARD OF CENSORS.

The names of the following applicants for membership were referred to the Board of Censors, and, after having been favorably passed upon by the Board, they were elected:

Ralph Bernstein, 35 S. 19th Street, Philadelphia.
Norman S. Betts, Philadelphia.
J. R. Bibighaus, Glenside.
Eva N. Blake, 190 Maplewood Avenue, Philadelphia.
G. H. Boone, Pottsville.
Thomas B. Bradley, 960 N. 5th Street, Philadelphia.
Charles M. Brooks, 1409 N. 15th Street, Philadelphia.
C. M. Brunnel, Stroudsburg.
Frank Foster Crandell, Turtle Creek.
Wm. Francis Doyle, Pottsville.
J. H. Ervin, Jenkintown.
H. A. Fehr, Allentown, Pa.
Paul F. Felsberg, 1226 N. 15th Street, Philadelphia.
Maurice M. Fleagle, Hanover.

Frank A. Garis, Bethlehem.
Albert Rowland Garner, Norristown.
H. M. Gay, 1687 N. 54th Street, Philadelphia.
Weber L. Gerhart, 36 S. 3d Street, Lewisburg.
T. C. Gray, Easton.
Evan J. Hackney, 400 N. 52d Street, Philadelphia.
George C. Haller, 4564 Wayne avenue, Germantown.
W. Nelson Hammond, 1424 Poplar Street, Philadelphia.
G. W. Harpel, Mt. Carmel.
F. M. Harry, Mount Joy.
M. Russell Thayer Hart, 3828 Germantown Avenue, Philadelphia.
G. Willis Hartman, 1207 N. 3d Street, Harrisburg.
J. B. Heritage, Langhorne.
H. P. Hess, Pine Grove.
Joseph R. Hood, Sewickley.
Frederick E. Howell, Reading.
E. Humphreys, 131 N. 15th Street, Philadelphia.
J. D. Kiefer, Mt. Carmel.
Grant M. Kistler, Lansford.
Horace E. Kistler, Johnstown.
J. S. Kistler, Shenandoah.
M. S. Kistler, Shenandoah.
W. F. Kistler, Minersville.
John P. Langwell, Wellsboro.
Julia C. Loos, Harrisburg.
E. S. Mantz, South Bethlehem.
Thomas Matlack, 2356 E. York Street, Philadelphia.
C. R. Miller, Steelton.
M. L. Miller, Mohnsville, Mohn's Store P. O.
Harland C. Nicholson, M. D., 2000 Wallace Street, Philadelphia.
Wayland R. Palmer, M. D., Hollidaysburg.
F. B. Quackenbush, M. D., 4700 Chester Avenue, Philadelphia.
J. J. Reitz, M. D., Walnutport.
Charles M. Richards, M. D., Reading.
J. R. Rochester, M. D., 863 N. 7th Street, Philadelphia.
L. A. Snyder, M. D., Ashland.
William W. Speakman, M. D., 1831 Chestnut Street, Philadelphia.
E. K. Steckel, M. D., Orwigsburg, Pa.
L. H. Sterner, M. D., Porter's Sideling.
D. W. Straub, M. D., Bethlehem.

E. L. Straub, M. D., Minersville.
Robert S. Summers, M. D., 2010 N. 12th Street, Philadelphia.
A. N. Super, Tamaqua.
T. E. Swalm Pottsville.
C. E. Teghtmeier, M. D., 1237 Shackamaxon Street, Philadelphia.
H. Ellen Walker, M. D., Sharon.
Franklin Watson, M. D., Willow Grove.
Harry G. Wiest,M. D., Schuylkill Haven.
F. V. Woolridge, M. D., Pittsburg.
Arthur W. Yale, M. D., 1901 Park Avenue, Philadelphia.
Frank E. Yerkes, M. D., Ambler.

Dr. C. S. Schwenk, M. D., of Philadelphia, presented his resignation from membership, which was, on motion, accepted.

Dr. Ella D. Goff made the following

REPORT OF THE TREASURER.

Balance on hand at last report	$1,369.16
Dues collected for the year 1904	1,045.00
Total	$2,414.16
Paid out on orders from trustees	926.11
Balance on hand September 19, 1904	$1,488.05

The following resolutions were presented by Dr. S. M. Rinehart. They were, on motion, adopted as the sentiment of the society and were referred to the Committee on Legislation for action:

WHEREAS, The State of Pennsylvania is without an accurate system of registration of vital statistics, which is an indispensable requisite of an efficient, modern public health service, valuable alike to the Commonwealth as well as to the physician; and,

WHEREAS, The Congress of the United States, by joint resolution, has called upon the authorities of the various States to co-operate in establishing such a system of registration; therefore, be it

Resolved, That the Homœopathic Medical Society of the State of Pennsylvania, assembled in annual meeting at Easton, September 20, 21 and 22, 1904, do most earnestly recommend to the next Legislature of Pennsylvania that a law be enacted which shall provide for the

thorough and complete registration of vital statistics throughout Pennsylvania in manner and form as recommended by the United States Census Bureau and the American Public Health Association.

WHEREAS, Typhoid fever and other infectious and contagious diseases have existed to an alarming degree throughout the State of Pennsylvania during the past year; and,

WHEREAS, The population of rural communities, which are without the legal protection of Boards of Health, has increased in such a wonderful degree; be it

Resolved, That it is the sentiment of the Homœopathic Medical Society of the State of Pennsylvania, assembled in annual meeting at Easton, September 20, 21 and 22, 1904, that it is the duty of the next Legislature to enact laws providing for the establishment of health officers in rural districts, to extend the powers and operations of the State Board of Health, to include a careful supervision of municipal water supplies and to enable them to study and take such measures as may be necessary to limit and abate the ravages of preventable diseases, and that a liberal appropriation should be created for this purpose.

The election of officers resulted in the selection of the following:

President, W. A. Seibert, M. D., Easton.

First Vice-President, C. P. Seip, M. D., Pittsburg.

Second Vice-President, W. G. Dietz, M. D., Hazleton.

Recording Secretary, G. B. Moreland, M. D., Pittsburg.

Corresponding Secretary, E. M. Gramm, M. D., Philadelphia.

Treasurer, Ella D. Goff, M. D., Allegheny.

Necrologist, Chandler Weaver, M. D., Philadelphia.

Censor, H. F. Schantz, M. D., Reading.

Trustees, W. A. Seibert, M. D., Easton; W. H. Keim, M. D., Philadelphia; Clarence Bartlett, M. D., Philadelphia.

Dr. W. H. Keim presented the following resolution, which was adopted:

Resolved, That the Publication Committee be directed to publish yearly the By-Laws of this Society and the Code of Ethics adopted by the Society for its guidance—the Code of Ethics of the American Institute of Homœopathy—and that the same be incorporated with the published Transactions of this Society.

Dr. W. H. Keim, offered the following:

AMENDMENTS TO THE BY-LAWS.

Amend Section 2, Article IV., of the By-Laws by striking out these words: "The officers shall be elected by ballot at each annual meeting of the Society," and inserting the following: "The nomination for officers of the Society shall be the special order of business for eleven o'clock of the morning of the second day of the annual meeting. The officers shall be elected by ballot, the election to be the special order of business for eleven o'clock on the morning of the third day of the annual meeting. The candidate receiving a majority of the votes cast shall be declared elected;" so that if adopted the Section shall read: "Section 2. The nomination for officers of the Society shall be the special order of business for eleven o'clock on the morning of the second day of the annual meeting. The officers shall be elected by ballot, the election to be the special order of business for eleven o'clock on the morninng of the third day of the annual meeting. The candidate receiving a majority of the votes cast shall be declared elected. The officers elected shall enter upon their respective duties on the first day of January next succeeding their election, to serve for the term of one year, or until their successors are elected, except as hereinafter provided."

Amend Section 3, Article III., of the By-Laws by inserting after the word "meeting," on the fourth line, these words: "Provided that the proposal for honorary membership shall have been made at a previous annual meeting, and said proposal been approved by the Board of Trustees," so that when amended the Section will read: "Section 3. Any homœopathic physician, not a resident of Pennsylvania, who by his superior attainments may be judged worthy, may by a two-thirds vote of the members present, be elected an honorary member at any annual meeting; provided, that the proposal for honorary membership shall have been made at a previous annual meeting, and said proposal been approved by the Board of Trustees; but no more than two shall be elected in one year. Honorary members shall have all the privileges of membership except the right to vote and to hold office, and shall be exempt from dues."

Also amend Section 1, Article V., of the By-Laws by striking out from the sixth line the words "'and Chairman of the Board of Trustees,' as the same conflicts with the corporate law of Pennsylvania under which we received our constitution, namely, our charter.

Dr. E. M. Gramm proposed the following amendments to the By-

Laws: Amend Article IX. of the By-Laws by inserting the words "which shall serve two years" after the words "a committee on legislation," and by inserting the words "in alternate years" after the words "a Committee on Legislation of at least nine members, to be appointed by the President," so that the clause shall read: "A committee on legislation which shall serve two years, of at least nine members, to be appointed by the President in alternate years, whose duty it shalll be to give special attention to all legislation involving the interests of the Society."

Also amend Article VII. of the By-Laws as follows: Strike out the whole of Article VII. and substitute:

ARTICLE VII.—*Dues.*

Section 1. Active members shall pay the sum of five dollars upon their election.

Section 2. Active members shall pay annually, in advance, the sum of three dollars toward defraying the expenses of the Society. Any member who shall fail to pay his annual dues for three successive years shall be dropped from the roll of members, after having been notified by the Corresponding Secretary of the forfeiture of his membership. The published proceedings of the Society will be furnished only to those members who are not in arrears for dues.

A motion was made and carried by a unanimous vote that the Homœopathic Medical Society of the State of Pennsylvania put itself on record as favoring the proving of drugs as instituted by the American Institute of Homœopathy, and that a donation of $250.00 be given to the Trustees of the Institute of Drug Provings of the American Institute of Homœopathy to assist in the work of that body.

A communication was received from the Pennsylvania State Nurses' Association requesting the support of the Society in the matter of the registration of nurses in this State. On motion the communication was referred to the Legislative Committee for appropriate action.

An invitation to hold the next annual meeting at Altoona was extended by the Raue Medical Club of Central Pennsylvania. On motion the invitation was accepted, and the Board of Trustees directed to fix the time of meeting.

A motion was made that it was the sense of the meeting that the

present Legislative Committee should be reappointed, and that a suggestion to that effect be made to the President.

A vote of thanks was extended to the President, D. C. Kline, M. D., for the very efficient manner in which he had conducted the work of the Soicety.

A vote of thanks was extended to the press for the excellent and extensive reports that appeared in the daily papers.

A vote of thanks was extended to the Press Committee for the manner in which their work had been performed.

On motion, the following resolutions, introduced by Dr. W. H. Keim, were unanimously adopted:

Resolved, That we desire to record our depth of gratitude and especial thanks to the Lehigh Valley Homœopathic Medical Society for the kind, courteous and fraternal manner in which they received and entertained the members of this Society and their families at this session of the Society.

Resolved, That we tender our special and grateful thanks to President Ethelbert D. Warfield, LL. D., of Lafayette College, for fraternal courtesies extended to the members of this Society. We also desire to record our appreciation of the splendid exhibit made by "Lafayette."

Resolved, That we tender our special and grateful thanks to the Board of Trustees and the staff of the Easton Hospital for fraternal courtesies extended to the members of this Society.

Resolved, That our thanks are heartily given to the faculty of the Hahnemann Medical College, of Philadelphia, for their unrivaled and instructive exhibit of anatomical and pathological specimens, and especially to Professor Rufus B. Weaver, M. D., for the preparation of and the courteous and instructive manner in which he demonstrated the same, and we cordially invite the faculty to make a similar or other exhibit at future meetings of the Society.

Resolved, That we tender our special and grateful thanks to Mr. and Mrs. H. D. Maxwell for kindness and courtesies received from them by the members of this Society and their families at this session of the society.

Resolved, That we tender our special and grateful thanks to Mr. John Eyerman for kindness and courtesies received from him by the members of this Society and their families at this session of the society.

On motion, the President was empowered to appoint a Membership

Committee of five. He appointed Drs. E. M. Gramm, H. F. Schantz, W. A. Seibert, R. L. Piper, J. D. Boileau.

DELEGATES AND COMMITTEES.

Delegate to the American Institute of Homœopathy—Dr. J. H. McClelland; Alternate, Dr. W. A. Seibert.

Delegates to the Interstate Committee of the American Institute of Homœopathy—Drs. B. F. Betts and F. W. Boyer.

Committee on Legislation (continued by resolution of the Society) —D. P. Maddux, M. D., Chairman; associates, Drs. J. D. Boileau, H. M. Bunting, T. H. Carmichael, Anna C. Clarke, Isaac Crowther, W. G. Dietz, E. M. Gramm, E. R. Gregg, T. M. Johnson, W. H. Keim, D. C. Kline, Aug. Korndœrfer, Sr., R. P. Mercer, C. S. Middleton, S. B. Moon, G. B. Moreland, G. A. Mueller, E. C. Parsons, R. L. Piper, E. T. Prizer, W. A. Seibert, F. J. Slough, W. B. Van Lennep, H. B. Ware, Julia Gould Waylan, L. H. Willard.

Committee on Organization, Registration and Statistics—G. B. Moreland, M. D., Chairman; associates, Drs. C. F. Bingaman, E. M. Gramm.

Committee on Publication—E. M. Gramm, M. D., Chairman; associates, Drs. Ella D. Goff, G. B. Moreland.

Special Committee to Interview Board of Medical Examiners—E. M. Gramm, M. D., Chairman; Drs. H. F. Schantz and W. H. Keim.

Press Committee—H. F. Schantz, M. D., Chairman; associates, Drs. W. A. Seibert, D. Yoder.

Membership Committee—E. M. Gramm, M. D., Chairman; associates, Drs. H. F. Schantz, W. A. Seibert, R. L. Piper, J. D. Boileau.

CHARTER

OF THE

HOMŒOPATHIC MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

To the Honorable, the Judges of the Court of Common Pleas of Philadelphia County, Pennsylvania:

In compliance with the requirements of an Act of the General Assembly of the Commonwealth of Pennsylvania, entitled "An Act to provide for the Incorporation and Regulation of Certain Corporations," approved the twenty-ninth day of April, A. D. 1874, and the supplements thereto, the undersigned, all of whom are citizens of Pennsylvania, having associated themselves together, with others hereinafter named, for the purpose hereinafter specified, and desiring that they may be incorporated according to law, do hereby certify:

First, The name of the proposed Corporation is The Homœopathic Medical Society of the State of Pennsylvania.

Second, The said Corporation is formed for the purpose of organizing the Homœopathic Medical Profession in the State of Pennsylvania and advancing Medical Sciences.

Third, The business of said Corporation is to be transacted in the City of Philadelphia.

Fourth, The said Corporation is to exist perpetually.

Fifth, The names and residences of the Corporators are as follows: William W. Van Baun, M. D., Philadelphia; John F. Cooper, M. D., Allegheny; Edward M. Gramm, M. D., Philadelphia; Z. T. Miller, M. D., Pittsburg; William B. Van Lennep, M. D., Philadelphia; Edward Cranch, M. D., Erie; Augustus Korndœrfer, Sr., M. D., Philadelphia; Alonzo P. Bowie, M. D., Uniontown; Clarence Bartlett, M. D., Philadelphia; Hugh Pitcairn, M. D., Harrisburg; Pemberton Dudley, M. D., Philadelphia; L. H. Willard, M. D., Allegheny; William C. Goodno, M. D., Philadelphia; Daniel P. Maddux, M. D., Chester; J. N. Mitchell, M. D., Philadelphia; Horace B. Ware, M. D., Scranton; William H. Keim, M. D., Philadelphia; W. A. Seibert, M. D., Easton; Charles M. Thomas, M. D., Philadelphia; J. H. McClelland, M. D., Pittsburg; John E. James, M. D., Philadel-

phia; Joseph E. Jones, M. D., West Chester; Isaac G. Smedley, M. D., Philadelphia; H. C. Chisholm, M. D., Huntingdon; T. H. Carmichael, M. D., Philadelphia, all of the State of Pennsylvania.

Sixth. The number of Trustees of said Corporation is fixed at nine, and the names and residences of those who are chosen as Trustees until the next annual election are as follows: William W. Van Baun, M. D., Philadelphia; John F. Cooper, M. D., Allegheny; E. M. Gramm, M. D., Philadelphia; Z. T. Miller, M. D., Pittsburg; William B. Van Lennep, M. D., Philadelphia; Edward Cranch, M. D., Erie; William H. Keim, M. D., Philadelphia; J. N. Mitchell, M. D., Philadelphia; Daniel P. Maddux, M. D., Chester.

Seventh. At the next annual election for Trustees of the Corporation three Trustees shall be elected to serve for the term of one year, three others to serve for the term of two years, and three others to serve for the term of three years, and thereafter annually three Trustees shall be elected to serve for the term of three years in the place of those whose terms expire.

Witness our hands and seals this third day of November, A. D. eighteen hundred and ninety-six.

WILLIAM W. VAN BAUN, M. D. [L. S.].
WILLIAM B. VAN LENNEP, M. D. [L. S.],
CLARENCE BARTLETT, M. D. [L. S.],
W. C. GOODNO, M. D. [L. S.],
J. NICHOLAS MITCHELL, M. D. [L. S.].

COMMONWEALTH OF PENNSYLVANIA, COUNTY OF PHILADELPHIA, *ss.*

Before me, the subscriber, a Notary Public for the Commonwealth of Pennsylvania, residing in the City of Philadelphia, personally appeared Wm. W. Van Baun, M. D., Wm. B. Van Lennep, M. D., and Clarence Bartlett, M. D., three of the subscribers of the above and foregoing certificate of incorporation of The Homœopathic Medical Society of the State of Pennsylvania, and in due form of law acknowledged the same to be their act and deed.

Witness my hand and official seal the third day of November, A. D. 1896.

[L. S.] WINFIELD S. SHEARD,
Notary Public.

IN THE COURT OF COMMON PLEAS FOR PHILADELPHIA COUNTY:

In the Matter of the Incorporation of The Homœopathic Medical Society of the State of Pennsylvania.

And now, to wit, this seventh day of December, A. D. 1896, the

within Certificate of Incorporation having been on file in the Office of the Prothonotary of said Court since the twelfth day of November, A. D. 1896, on which publication of notice of intended application was first made, as appears from the entry thereon, and due proof of said publication having been presented to me, I do hereby certify that I have perused and examined said instrument, and find the same to be in proper form and within the purposes named in the first class of Corporations specified in Section 2 of the Act of April 29, 1874, and that said purposes are lawful and not injurious to the community. It is, therefore, on motion of William C. Hannis, Esq., ordered and decreed that the said Charter be approved and is hereby approved, and upon the recording of said Charter and its endorsements and this decree in the office of the Recorder of Deeds in and for said County, which is now hereby directed, the subscribers and their associates shall thenceforth be a Corporation for the purposes and upon the terms and under the name therein stated.

[L. S.] T. K. FINLETTER,
Judge.

Recorded in the Office for Recording Deeds, etc., in and for the City and County of Philadelphia in Charter Book No. 22, page 284, etc.

Witness my hand and Seal of Office this seventh day of December, A. D. 1896.

[L. S.] WM. GEARY,
Recorder of Deeds.

BY-LAWS.

ARTICLE I.—TITLE.

This Corporation shall be known by the name and title of The Homœopathic Medical Society of the State of Pennsylvania.

ARTICLE II.—OBJECT.

The said Society is formed for the purpose of organizing the homœopathic medical profession in the State of Pennsylvania and advancing medical sciences.

ARTICLE III.—MEMBERSHIP.

SECTION 1. This Society shall be composed of active, honorary and corresponding members.

SEC. 2. A candidate for active membership shall present to the Board of Censors an application, signed by himself, certifying that he has received the degree of Doctor of Medicine from an incorporated medical college, that he subscribes to the doctrine of *Similia Similibus Curantur*, and that he sustains a good moral character—these statements to be vouched for by two members of the Society in good standing. If found qualified, he may be elected a member. He shall not, however, be considered a member until he has paid the first years dues and signed the Constitution, either in person or by proxy. An active member removing from the State, wishing to retain his membership, shall notify the Corresponding Secretary to that effect, otherwise the Corresponding Secretary shall drop his name from the roll. Any active member who shall be three years in arrears for dues shall forfeit his membership, and he shall not be reinstated until all arrearages shall have been paid. Membership shall also be forfeited by vote of the Society if a member fails to attend the meetings of the Society or present a paper once in five years. Any active member who shall be unable to comply with the requirements of this Society may be continued as an active member, without the payment of dues, by vote of the Society.

SEC. 3. Any Homœopathic physician not a resident of Pennsylvania, who, from his superior attainments, may be judged worthy, may, by a two-thirds vote of the members present, be elected an honorary member at any annual meeting; but no more than two shall be elected in one year. Honorary members shall have all the privileges of membership except the right to vote and to hold office, and shall be exempt from dues.

SEC. 4. Any Homœopathic physician residing outside of the United States may be elected a corresponding member by a vote of two-thirds of the members present at any annual meeting, but not more than two shall be elected in one year. Corresponding members shall have all the privileges of membership except the right to vote aand to hold office, and shall be exempt from dues.

ARTICLE IV.—OFFICERS.

SECTION 1. The officers of this Society shall be a President, a First Vice-President, a Second Vice-President, a Recording Secretary, a Corresponding Secretary, a Treasurer, a Necrologist, a Board of Trustees consisting of nine members, and a Board of Censors consisting of three members.

SEC. 2. The officers shall be elected by ballot at each annual meeting of the Society, and shall enter upon their respective duties on the first day of January next succeeding their election, to serve for the term of one year, or until their successors are elected, except as hereinafter provided.

SEC. 3. The Board of Trustees shall serve for a term of three years, three members to be elected annually.

SEC. 4. The Censors shall be elected to serve for three years, one member to be elected annually.

ARTICLE V.—DUTIES OF OFFICERS

SECTION 1. The President shall preside at all meetings of the Society. He shall preserve order, appoint all committees unless otherwise directed, and discharge all other duties usually pertaining to a presiding officer, in accordance with the provisions of the Charter and these By-Laws. He shall be, *ex officio*, a member of all standing committees of the Society, and Chairman of the Board of Trustees. He shall not be eligible to office two terms in succession.

SEC. 2. The Vice-Presidents, in the order of their election, shall perform the duties of the President in his absence.

SEC. 3. The Recording Secretary shall keep correct minutes of the proceedings of the Society, and, when approved, transcribe them in a book kept for that purpose. He shall have charge of the minute-book, all papers, documents, etc., belonging to the Society, other than those pertaining to the Treasurer, the Trustees, or the Committee on Publication, and shall keep them during the intervals of the meetings of the Society. Within twenty-one days after adjournment he shall furnish the Committee on Publication with a correct copy of the minutes for publication in the Transactions, countersign orders upon the Treasurer in accordance with the By-Laws, and shall perform such other duties pertaining to his office as may from time to time be required. He shall be, *ex officio*, Chairman of the Committee on Organization, Registration and Statistics.

SEC. 4. The Corresponding Secretary shall preserve all letters received by the Society, conduct such correspondence as shall tend to advance its interests, prepare the order of business for the annual session of the Society, give at least two weeks' notice of all meetings, keep a record of all members, with the date of admission of each, present all communications to the Society, notify all committees of their appointment and of the business referred to them, and notify

all members of their election. He shall be, *ex officio*, Chairman of the Committee on Publication.

SEC. 5. The Treasurer shall hold the evidence of all property belonging to The Homœopathic Medical Society of the State of Pennsylvania, receive all moneys intended for the Treasury of the Society, and deposit the same in the name of The Homœopathic Medical Society of the State of Pennsylvania as shall be directed by the Board of Trustees, make no payments except on orders drawn in accordance with the By-Laws, keep a full account of receipts and expenditures, which shall at all times be open to the inspection of the Board of Trustees, make a report to the Society in writing at each annual meeting, and, whenever required, of the state of his accounts and the condition of the Treasury, and shall annually notify all members of their arrearages.

SEC. 6. The Necrologist, upon the death of a member of the Society shall prepare a suitable obituary and present it to the Society at its annual meeting.

SEC. 7. The Trustees shall have general supervision of the business of the Society, hold at least one meeting every year, and make a report at the annual session of the Society. The Trustees shall have the power to disburse all money belonging to the Society. No money shall be paid from the treasury except upon a written order, drawn on the Treasurer and countersigned by the Chairman and Secretary of the Board of Trustees.

The Trustees, acting as the Judicial Council, shall take cognizance of, and decide upon all questions of an ethical or judicial character. All questions of a personal character shall be referred at once, without discussion, to the Judicial Council. Every decision of the Council shall be in writing, signed by a majority of the members present, be reported to this Society at the earliest practical moment, and shall be final. The Council shall preserve permanent records of all its proceedings.

SEC. 8. The Censors shall examine the credentials of candidates for membership, and report to the Society for election those who may be found qualified. They may report in the regular order of business, or at the close of the report of any bureau.

ARTICLE VI.—MEETINGS.

SECTION 1. The annual meeting shall be held in the month of September, on the days and at the place decided upon at the annual meet-

ing next preceding; an invitation to hold the annual meeting in any locality shall be considered only when extended by a regularly organized society.

SEC. 2. Nine members shall constitute a quorum for the transaction of the ordinary business of the Society; but for scientific or literary purposes, unless an actual count be called for, a quorum shall always be presumed. For amending the By-Laws, twenty members shall constitute a quorum.

SEC. 3. The Board of Trustees shall have power to direct such other meetings as it may judge advisable.

SEC. 4. Should occasion arise making it necessary to change the time and place of meeting agreed upon at the previous annual session, the same may be done by a vote of the Board of Trustees.

ARTICLE VII.—DUES.

Active members shall pay annually, in advance, the sum of five dollars towards defraying the expenses of the Society. Any member who shall fail to pay his annual dues for three successive years shall be dropped from the roll of members, after having been notified by the Corresponding Secretary of the forfeiture of his membership. The published proceedings of the Society will be furnished only to those members who are not in arrears for dues.

ARTICLE VIII.—SECTIONS.

SECTION 1. The following sections shall be appointed as hereinafter provided:

Materia Medica and Provings.
Homœopathic Institutes and Clinical Medicine.
Surgery.
Obstetrics.
Gynæcology.
Pathology and Pathological Anatomy.
Ophthalmology, Otology and Laryngology.
Pædology.
Sanitary Science.

SEC. 2. Each Section shall be composed of not less than five members, and no member shall be placed on more than one Section.

SEC 3. The Sections shall report in order of rotation each succeeding year, except the Section of Materia Medica, whose report shall be a special order of busines at the opening of the afternoon session of the second day of the Society meeting.

SEC. 4. Immediately upon the close of the report of a Section, the President shall appoint a chairman for the ensuing year; and the chairman shall, in conjunction with the President, select his associates, and the list of the members of the Sections shall be announced before the close of the meeting.

SEC. 5. If a member of a Section shall resign or decline to serve, the Chairman of the Section shall fill the vacancy and notify the Corresponding Secretary of his action.

ARTICLE IX.—STANDING COMMITTEES.

The following Committees shall be appointed by the President on assuming office:

A Committee on Legislation, of at least nine members, to be appointed by the President, whose duty it shall be to give special attention to all legislation involving the interests of the Society.

A Committee on Organization, Registration and Statistics, of at least three members, to be appointed by the President, of which the Recording Secretary shall be Chairman. It shall receive all credentials of delegates to the Society; receive and preserve reports from local and State societies, colleges and other institutions; keep a record of the number of members admitted and withdrawn from the Society, and perform such other duties as may be directed by the Society. From these data the annual report of the Committee shall be prepared.

A Publication Committee, consisting of the Treasurer, Recording Secretary and Corresponding Secretary, the latter being Chairman; but the number of its members may be increased at the discretion of the Society. It shall be the duty of the Committee within six months from the date of the annual meeting to publish and issue the Transactions to all who are entitled to receive them, unless otherwise directed by the Society.

ARTICLE X.—PAPERS AND DISCUSSIONS.

SECTION 1. Each paper presented to this Society shall be through its appropriate Section. All papers to be presented by any Section shall be in the hands of the Chairman thereof at the opening of the session. All papers shall be subject to the approval and revision of the Publication Committee. No paper will be received by the So-

ciety in an incomplete condition, and no paper will be published as part of the Transactions which has been published previous to its presentation to this Society. No paper shall occupy more than fifteen minutes in the reading, unless the time be extended by an affirmative three-fourths' vote of the members of the Society present. In the absence of theauthor of a paper the Chairman of its appropriate Section may request any member of the Society present to read the same, or it shall be read at the request of five members. Any paper may be published in a medical journal subsequent to its presentation to the Society, provided that the original be retained in the custody of the Publication Committee.

All communications read before the Society shall become its property.

SEC. 2. The discussion shall follow the reading of each paper, unless otherwise ordered by the Society. All discussions shall be confined to the subject of the paper or report. No member shall speak more than twice on the same subject, except by vote of the Society and each speaker shall be limited to a speech of ten minutes, and to one of five minutes if he speaks a second time. No excess of time shall be allowed, except by consent of the Society. The reader of the paper shall be allowed ten minutes at the close of the discussion.

ARTICLE XI.—SEAL.

The Society shall have and use one common seal. The Corresponding Secretary shall be the custodian of the seal.

ARTICLE XII.—SENIOR MEMBERS.

Members of the Society who shall have maintained twenty-one years of consecutive membership shall be Senior Members, and their names shall be printed in capital letters in the list of members in the Transactions.

ARTICLE XIII.—CODE OF ETHICS.

SECTION 1. The Code of Ethics of the American Institute of Homœopathy is adopted by this Society for its guidance.

SEC. 2. All complaints of violation of the Code of Ethics shall be referred to the Judicial Council, and the decision of the Council shall be final.

ARTICLE XIV.—Minutes.

The reading of the minutes for approval and record shall be the first order of business at the morning meetings of the Society, and at the close of the final session.

ARTICLE XV.—Amendments.

These By-Laws may be altered or amended by a vote of two-thirds of the members present at any annual meeting; *provided,* that notice of such proposed alteration or amendemnt shall have been given to the Society in writing at the annual meeting next preceding, and notice of such proposed alteration or amendment shall appear in the call for the meeting at which it is to be acted upon.

OFFICERS OF THE SOCIETY FROM ITS ORGANIZATION TO THE PRESENT TIME.

PRESIDENTS.

1866. J. B. GOOD, M. D.
1867. W. WILLIAMSON, M. D.
1868. C. PRESTON, M. D.
1869. W. WILLIAMSON, M. D.
1870. O. B. GAUSE, M. D.
1871. M. COTE, M. D.
1872. J. H. MARSDEN, M. D.
1873. B. W. JAMES, M. D. (February.)
1873. J. F. COOPER, M. D. (October.)
1874. C. A. STEVENS, M. D.
1875. R. J. McCLATCHEY, M. D.
1876. J. E. JONES, M. D.
1877. J. C. BURGHER, M. D.
1878. H. N. GUERNSEY, M. D.
1879. L. H. WILLARD, M. D.
1880. J. K. LEE, M. D.
1881. J. H. McCLELLAND, M. D.
1882. J. C. MORGAN, M. D.
1883. P. DUDLEY, M. D.
1884. W. R. CHILDS, M. D.
1885. J. E. JAMES, M. D.
1886. D. COWLEY, M. D.
1887. A. R. THOMAS, M. D.
1888. HUGH PITCAIRN, M. D.
1889. W. B. TRITES, M. D.
1890. C. F. BINGAMAN, M. D.
1891. AUGUSTUS KORNDŒRFER, SR., M. D.
1892. E. C. PARSONS, M. D.
1893. J. C. GUERNSEY, M. D.
1894. C. S. MIDDLETON, M. D.
1895. W. J. MARTIN, M. D.
1896. W. W. VAN BAUN, M. D.
1897. Z. T. MILLER, M. D.
1898. W. H. KEIM, M. D.
1899. B. F. BETTS, M D.
1900. C. C. RINEHART, M. D.
1901. H. B. WARE, M. D.
1902. R. P. MERCER, M. D.
1903. O. S. HAINES, M D.
1904. D. C. KLINE, M. D.

FIRST VICE-PRESIDENTS.

1866. J. H. P. FROST, M. D.
1867. J. H. MARSDEN, M. D.
1868. H. HOFMAN, M. D.
1870. C. A. STEVENS, M. D.
1871. R. FAULKNER, M. D.
1872. H. N. GUERNSEY, M. D.
1873. M. PRESTON, M. D. (February.)
1873. M. FRIESE, M. D. (October.)
1874. I. LEFEVRE, M. D.
1875. J. E. JONES, M. D.
1876. J. C. BURGHER, M. D.
1877. L. H. WILLARD, M. D.
1878. W. R. CHILDS, M. D.
1879. M. M. WALKER, M D.
1880. H. DETWILLER, M. D.
1881. B. F. BETTS, M. D.
1882. P. DUDLEY, M. D.
1883. HUGH PITCAIRN, M. D.
1884. C. MOHR, M. D.
1885. D. COWLEY, M. D.
1886. W. H. BIGLER, M. D.
1887. W. J. MARTIN, M. D.
1888. W. B. TRITES, M. D.
1889. C. F. BINGAMAN, M. D.
1890. C. S. MIDDLETON, M. D.
1891. E. C. PARSONS, M. D.
1892. F. R. SCHMUCKER, M D.
1893. SARAH J. COE, M. D.
1894. Z. T. MILLER, M. D.

1895 M. M. WALKER, M. D.
1896. R. W. McCLELLAND, M. D.
1897. W. H. KEIM, M. D.
1898. H. B. WARE, M. D.
1899. A. P. BOWIE, M. D.
1900. E. H. HILL, M. D.
1901. H. L. NORTHROP, M D.
1902. W. F. EDMUNSON, M. D.
1903. W. A. SEIBERT, M. D.
1904. THEO. SURETH, M. D.

SECOND VICE-PRESIDENTS.

1866. J. C. BURGHER, M. D.
1867. W. J. BLAKELY, M. D.
1868. J. J. DETWILLER, M. D.
1870. J. H. McCLELLAND, M. D.
1871. H. M. LOGEE, M. D.
1872. S. F. CHARLTON, M. D.
1873. J. C. BURGHER, M D. (February.)
1873. H. R. FETTERHOFF, M. D. (October.)
1874. W. F. SPETH, M. D.
1875. H. N. MARTIN, M. D.
1876. J. E. JAMES, M D
1877. J. E. JAMES, M. D.
1878. A. KORNDŒRFER, SR., M. D.
1879. L. M. ROSSEAU, M. D.
1880. J. W. ALLEN, M. D.
1881. J. J. DETWILLER, M D.
1882. J. B. WOOD, M. D.
1883. C. F. BINGAMAN, M. D.
1884. H. DETWILLER, M. D.
1885. J. K. LEE, M. D.
1886. J. R. READING, M. D.
1887. EDWARD CRANCH, M. D.
1888. C. F. BINGAMAN, M. D.
1889. JOHN MALIN, M. D.
1890. C. H. LEE, M. D.
1891. M. J. CHAPMAN, M. D.
1892. SARAH J. COE, M. D.
1893. J. L. FERSON, M. D.
1894. ELIZA L. McCLURE, M. D.
1895. A. P. BOWIE, M D.
1896. E. R. SNADER, M. D.
1897. H. B. WARE, M D.
1898. EDWARD CRANCH, M. D.
1899. ANNA C. CLARKE, M. D.
1900. R. P. MERCER, M. D.
1901. W. J. MARTIN, M. D.
1902. W. A. SEIBERT, M. D.
1903. THEO. SURETH, M. D.
1904. E. R. GREGG, M. D.

RECORDING SECRETARIES.

1866-1872. B. W. JAMES, M. D.
1873-1878. M. W. WALKER, M. D.
1879-1882. Z. T. MILLER, M. D.
1883. T. M. STRONG, M. D.
1884, 1885. C. BARTLETT, M. D.
1886, 1887. H. F. IVINS, M. D.
1888, 1889. J. H. CLOSSON, M. D.
1890-1894. J. R. HORNER, M. D.
1895. E. M. GRAMM, M. D.
1896-1904. G. B. MORELAND, M. D.

CORRESPONDING SECRETARIES.

1866-1872. R. J. McCLATCHEY, M D.
1873-1875. P. DUDLEY, M. D.
1876-1879. J. C. GUERNSEY, M. D.
1880-1885. R. E. CARUTHERS, M. D.
1886-1888. C. BARTLETT, M. D.
1889-1894. E. R. SNADER, M. D.
1895. J. R. HORNER, M. D.
1896-1904. E. M. GRAMM, M. D.

TREASURERS.

1866. D. COWLEY, M. D.
1867. H. H. HOFMAN, M. D.
1868. W. WILLIAMSON, M. D.
1870. W. J. BLAKELY, M D.
1871-1873. (February) O. B. GAUSE, M. D.
1873. (October) and 1874 R. J. McCLATCHEY, M D
1875-1899. J. F. COOPER, M. D.
1900-1904 ELLA D GOFF, M. D

NECROLOGISTS.

1872-1883. W. R. CHILDS, M. D.
1884. M. M. WALKER, M. D.
1885-1889. W. R. CHILDS, M. D.
1890-1894. W. J. MARTIN, M. D.
1895-1896. T. S. DUNNING, M. D.
1897-1901. T. L. BRADFORD, M. D.
1902. J. W. HASSLER, M. D.
1903-1904. C. WEAVER, M. D

LIST OF MEMBERS.

1899—Adams, T. Louis, M. D., 1831 Chestnut Street, Philadelphia.
1899—Arthur, Alexander B., M. D., 2039 Spring Garden Street, Philadelphia.
1899—Artz, Jerome L., M. D., 30th and Westfield Streets, Camden, N. J.
1898—Ashcraft, Leon T., M. D., 1833 Chestnut Street, Philadelphia.
1892—Baier, George F., M. D., Norwood.
1889—Baily, A. W., M. D., 1809 Pacific Ave., Atlantic City, N. J.
1901—Baker, A. L., M. D., Altoona.
1896—Baker, Albra W., M. D., 427 Park Ave., Williamsport.
1899—Baker, Daniel J., M. D., 1706 N. 19th Street, Philadelphia.
1898—Barnes, Alonzo M., M. D., 3517 N. Broad Street, Philadelphia.
1901—Barnes, W. A., M. D., Kittanning.
1881—BARTLETT, CLARENCE, M. D., 1506 Arch Street, Philadelphia.
1889—Bayley, Weston D., M. D., 124 S. 16th Street, Philadelphia.
1902—Belville, J. E., M. D., 5915 Green Street, Gtn., Philadelphia.
1897—Berlinghof, George J., M. D., 1507 Capouse Ave., Scranton.
1904—Bernstein, Ralph, M. D., 35 S. 19th Street, Philadelphia.
1875—BETTS, B. F., M. D., 1609 Girard Ave., Philadelphia.
1904—Betts, Norman S., M. D., Philadelphia.
1904—Bibighaus, J. R., M. D., Glenside.
1886—Bier, P. A., M. D., 4200 Butler Street, Pittsburg.
1900—Bierman, H., M. D., Bloomsburg.
1892—Bigelow, W. S., M. D., Phillipsburg.
1903—Bigler, Bernard E., M. D., Colorado Springs, Col.
1872—BIGLER, W. H., M. D., 331 S. Broad Street, Philadelphia.
1873—BINGAMAN, C. F., M. D., 412 Smith Block, Pittsburg.
1896—Birch, J. P., M. D., 3801 Powelton Ave., Philadelphia.
1894—Bittner, Albert Jacob, M. D., Allentown.
1892—Blair, W. W., M. D., 400 Penn Ave., Pittsburg.
1904—Blake, Eva N., M. D., 190 Maplewood Ave., Philadelphia.
1898—Boericke, Felix A., M. D., 1011 Arch Street, Philadelphia.
1892—Boileau, John D., M. D., 804 W. Lehigh Ave., Philadelphia.

1892—Books, B. F., M. D., 1117 Twelfth Ave., Altoona.
1904—Boone, G. H., M. D., Pottsville.
1872—BOWIE, A. P., M. D., 87 Main Street, Uniontown.
1884—Boyd, G. S., M. D., Beaver Falls.
1882—BOYER, FRANCIS W., M. D., Pottsville.
1894—Bradford, Thomas Lindsley, M. D., 1862 Frankford Ave., Philadelphia.
1904—Bradley, Thomas B., M. D., 960 N. 5th Street, Philadelphia.
1883—BRANSON, MARY, M. D., 1719 Arch Street, Philadelphia.
1896—Brewer, Mary, M. D., 330 E. Chelten Ave., Gtn., Philadelphia.
1896—Brewster, F. D., M. D., 309 Jefferson Ave., Scranton.
1898—Brickley, E. N., M. D., York.
1904—Brooks, Charles M., M. D., 1409 N. 15th Street, Philadelphia.
1891—Brown, C. H., M. D., 1022 Walnut Street, Philadelphia.
1898—Brown, C. Sheble, M. D., 3046 Frankford Ave., Philadelphia.
1894—Brown, S. G. A., M. D., Shippensburg.
1904—Brunnell, C. M., M. D., Stroudsburg.
1893—Bryson, H. Ballou, M. D., 312 Smith Block, Pittsburg.
1886—Bulick, T. M., M. D., 317 N. Second Street, Harrisburg.
1877—BULLARD, J. A., M. D., 200 S. Franklin Street, Wilkesbarre.
1881—BUNTING, H. M., M. D., 521 Swede Street, Norristown.
1888—Burchfield, S. E., M. D., 803 Ligonier Street, Latrobe.
1896—Caley, Joseph M., M. D., 1513 Green Street, Philadelphia.
1898—Calhoun, John C., M. D., Pittsburg.
1888—Carmichael, T. H., M. D., 7127 Germantown Ave., Philadelphia.
1897—Carter, Woodward D., M. D., 1311 South Broad Street, Philadelphia.
1898—Challinor, S. Boyd, M. D., 311 Oakland Ave., Pittsburg.
1875—CHAPMAN, MILLIE J., M. D., 804 Penn Ave., Pittsburg.
1900—Chase, Theo. L., M. D., 1604 Walnut Street, Philadelphia.
1888—Chisholm, H. C., M. D., 528 Penn Street, Huntingdon.
1885—Christine, G. Maxwell, M. D., 2043 N. 12th Street, Philadelphia.
1899—Clark, Edward P., M. D., Connellsville.
1902—Clark, Ernest L., M. D., Media.
1893—Clark, George H., M. D., 4 Walnut Lane, Germantown, Philadelphia.
1889—Clarke, Anna C., M. D., 426 Adams Ave., Scranton.

1886—Closson, J. H., M. D., 53 W. Chelton Ave., Germantown, Philadelphia.
1901—Cochran, Mary J., M. D., Belleview.
1883—COE, SARAH J., M. D., 108 N. Franklin Street, Wilkesbarre.
1894—Conarroe, Thomas H., M. D., 1807 Wallace Street, Philadelphia.
1895—Cook, W. C., M. D., 501 Bijou Bldg., Pittsburg.
1894—Cooke, Mary A., M. D., 2113 N. 18th Street, Philadelphia.
1889—Coolidge, J. W., M. D., 334 Washington Ave., Scranton.
1887—Cooper, John, M. D., 54 Arch Street, Allegheny.
1901—Cooper, R. C., M. D., 1111 Federal Street, Allegheny.
1895—Cooper, Wm. H., M. D., Oakmont.
1882—CRANCH, EDW., M. D., 109 W. Ninth Street, Erie.
1904—Crandell, Frank Foster, M. D., Turtle Creek.
1885—Crowther, Isaac, M. D., 700 Madison Street, Chester.
1891—Davis, B. L., M. D., 575 Lincoln Ave., Bellevue.
1897—Dehoff, J. W., M. D., York, Pa.
1866—DETWILLER, JOHN J., M. D., 52 Centre Square, Easton.
1893—Detwiller, W. K., M. D., Easton.
1903—De Witt, G. M., M. D., Board of Trade Bldg., Scranton.
1886—Dietz, W. G., M. D., 21 N. Vine Street, Hazleton.
1878—DINSMORE, S. W. S., M. D., 60 N. Main Street, Sharpsburg.
1895—Doyle, H. H., M. D., 485 Fifth Ave., Pittsburg.
1904—Doyle, Wm. Francis, M. D., Pottsville.
1891—Drake, J. C. Merle, M. D., 720 Sassafrass Street, Erie.
1867—DUDLEY, PEMBERTON, M. D., 1405 N. 16th Street, Philadelphia.
1882—Du Four, W. M., M. D., 755 W. Third Street, Williamsport.
1881—DUNNING, T. S., M. D., 1328 N. 15th Street, Philadelphia.
1893—Ealer, Percy H., M. D., 2027 Spring Garden Street, Philadelphia.
1901—Elliott, J. D., M. D., Pittsburg.
1873—EDMUNSON, W. F., M. D., 1321 Fifth Ave., Pittsburg.
1904—Ervin, J. H., M. D., Jenkintown.
1896—Esrey, L. K., M. D., 1642 Pine Street, Philadelphia.
1904—Fehr, H. A., M. D., Allentown.
1904—Felsberg, Paul F., M. D., 1226 N. 15th Street, Philadelphia.
1895—Fitz, W. H. A., M. D., 1522 Girard Ave., Philadelphia.
1904—Fleagle, Maurice M., M. D., Hanover.

1884—Fleming, R. K., M. D., 6224 Station Street, Pittsburg.
1892—Flint, Harvey E., M. D., West 11th Street, Erie.
1892—Flint, John F., M. D., 1112 Peach Street, Erie.
1873—FULTON, H. W., M. D., 325 N. Highland Ave., Pittsburg.
1902—Furman, Horace S., M. D., 1705 Tioga Street, Philadelphia.
1898—Gann, G. W., M. D., Du Bois.
1904—Garis, Frank A., M. D., Bethlehem.
1904—Garner, Albert Rowland, M. D., Norristown.
1901—Gates, W. D., M. D., Indiana.
1904—Gay, H. M., M. D., 1687 N. 54th Street, Philadelphia.
1892—Gerberich, D. P., M. D., Lebanon.
1903—Gerberich, M. B., M. D., 428 Cumberland Street, Lebanon.
1886—Gerhart, Jos. M., M. D., 1127 Mt. Vernon Street, Philadelphia.
1904—Gerhart, Weber L., M. D., 36 S. 3d Street, Lewisburg.
1879—GETZE, G. M., M. D., Tarentum.
1891—Gilbert, Irwin B., M. D., 2027 Columbia Ave., Philadelphia.
1894—Gittens, Theodore P., M. D., 1716 Diamond Street, Philadelphia.
1891—Goff, Ella D., M. D., 10 N. Diamond Street, Allegheny.
1903—Golden, G. Morris, M. D., 1449 Venango Street, Philadelphia.
1875—GOODNO, W. C., M. D., 1603 Walnut Street, Philadelphia.
1883—GRAMM, EDWARD M., M. D., 1833 Chestnut Street, Philadelphia.
1883—GRAMM, THEO. J., M. D., 846 N. Broad Street, Philadelphia.
1904—Gray, T. C., M. D., Easton.
1895—Gregg, Edw. R., M. D., 334 S. Highland Ave., Pittsburg.
1889—Gregory, G. W., M. D., Troy.
1888—Griffith, Louis B., M. D., 2449 Columbia Ave., Philadelphia.
1874—GUERNSEY, J. C., M. D., 1932 Chestnut Street, Philadelphia.
1886—Gundlach, F. C., M. D., 1722 Sarah Street, Pittsburg.
1894—Haas, George H., M. D., Allentown.
1904—Hackney, Evan J., 400 N. 52d Street, Philadelphia.
1902—Haines, Edward Steel, M. D., Rutledge.
1885—Haines, O. S., M. D., 137 N. 15th Street, Philadelphia.
1896—Hall, P. Sharples, M. D., 1604 Arch Street, Philadelphia.

1904—Haller, George C., M. D., 4564 Wayne Ave., Philadelphia.
1887—Haman, W. A., M. D., 122 N. 8th Street, Reading.
1904—Hammond, W. Nelson, M. D., 1424 Poplar Street, Philadelphia.
1898—Hammond, W. Wilson, M. D., 1420 Poplar Street, Philadelphia.
1883—HANCOCK, JOS., M. D., 1639 Columbia Ave., Philadelphia.
1899—Harner, D. W., M. D., 1930 Chestnut Street, Philadelphia.
1888—Harner, John E., M. D., 117 S. 5th Street, Reading.
1891—Harpel, F. E., M. D., 211 Ferry Street, Danville.
1904—Harpel, G. W., M. D., Mt. Carmel.
1884—Harris, D. R., M. D., 41 N. Jefferson Street, New Castle.
1904—Harry, F. M., M. D., Mount Joy.
1904—Hart, M. Russell Thayer, M. D., 3828 Germantown Ave., Philadelphia.
1904—Hartman, G. Willis, M. D., 1207 N. 3d Street, Harrisburg.
1892—Hassler, J. Willis, M. D., 267 Central Park West, New York.
1883—HASSLER, W. A., M. D., 105 N. 8th Street, Allentown.
1893—Heath, L. R., M. D., Mercer.
1895—Heilner, H. F., M. D., Scranton.
1883—HELFRICH, J. H., M. D., Allentown.
1899—Hendrixson, Lewis H., M. D., 5615 Wyalusing Ave., Philadelphia.
1892—Heritage, A. C., M. D., Jenkintown.
1904—Heritage, J. B., M. D., Langhorne.
1873—HERRON, C. D., M. D., 3505 Butler Street, Pittsburg.
1904—Hess, H. P., M. D., Pine Grove,
1902—Heysinger, Isaac W., M. D., 1521 Poplar Street, Philadelphia.
1892—Hill, E. H., M. D., Pittston.
1882—HOFMAN, C. H., M. D., 510 S. Highland Ave., Pittsburg.
1903—Holben, Malcolm D., M. D., Slatington.
1883—HOLBEN, M. J., M. D., Slatington.
1892—Holsberg, W. H., M. D., Lebanon.
1904—Hood, Joseph R., M. D., Sewickley.
1883—HORNER, J. RICHEY, M. D., 275 Prospect Street, Cleveland, O.
1904—Howell, Frederick E., M. D., Reading.
1889—Hoy, H. K., M. D., 1203 Fourteenth Street, Altoona.
1880—HUMES, J. R., M. D., Hollidaysburg.
1904—Humphreys, E., M. D., 131 N. 15th Street, Philadelphia.

1886—Ingersoll, W. K., M. D., 4008 Chestnut Street, Philadelphia.
1892—Irvin, Thomas A., M. D., Franklin.
1903—James, D. B., M. D., 2005 N. 12th Street, Philadelphia.
1867—JAMES JOHN E., M. D., 1521 Arch Street, Philadelphia.
1902—James, John Edwin, Jr., M. D., 1833 Wallace Street, Philadelphia.
1889—Jamison, M. R., M. D., Greensburg.
1881—JOHNSON, THEODORE M., M. D., 200 Susquehanna Ave., Pittston.
1901—Johnston, Anna, M.D., 5115 Liberty Ave., Pittsburg.
1892—Karsner, Charles W., M. D., 1320 S. Broad Street, Philadelphia.
1881—KARSNER, DANIEL, M. D., 205 Tulpehocken Street, Germantown, Philadelphia.
1889—Kase, Edmund H., M. D., 1325 Girard Ave., Philadelphia.
1891—Kaufman, John, M. D., Hazleton.
1896—Keelor, J. G., M. D., 48th and Baltimore Ave., Philadelphia.
1902—Keen, George I., M. D., Reading.
1894—Kehler, B. Frank, M. D., 1708 N. 8th Street, Philadelphia.
1885—Keim, William H., M. D., 1716 N. 18th Street, Philadelphia.
1904—Kiefer, J. D., M. D., Mt. Carmel.
1901—Kinney, C. Spenser, M. D., Easton.
1892—Kistler, A. L., M. D., N. E. Cor. 9th and Linden Streets, Allentown.
1897—Kistler, D. S., M. D., 307 S. Franklin Street, Wilkesbarre.
1904—Kistler, Grant M., M. D., Lansford.
1904—Kistler, Horace E., M. D., Johnstown.
1904—Kistler, J. S., M. D., Shenandoah.
1904—Kistler, M. S., M. D., Shenandoah.
1904—Kistler, W. F., M. D., Minersville.
1891—Kline, D. C., M. D., 5th and Chestnut Streets, Reading.
1891—Knauer, J. C., M. D., 233 S. 9th Street, Reading.
1899—Knerr, Bayard, M. D., 12th and Spruce Streets, Philadelphia.
1877—KNERR, C. B., M. D., 1833 Chestnut Street, Philadelphia.
1872—KORNDŒRFER, AUGUSTUS, SR., M. D., 1728 Green Street, Philadelphia.
1896—Korndoerfer, Augustus, Jr., M. D., 142 N. 18th Street, Philadelphia.
1900—Kressley, J. A., M. D., New Tripoli.
1896—Krusen, Edward A., M. D., Collegeville.

1903—Lane, Nathaniel F., M. D., 1620 Green Street, Philadelphia.
1904—Langwell, John P., M. D., Wellsboro.
1894—Lawrence, F. Mortimer, M .D., 1831 Chestnut Street, Philadelphia.
1888—Layman, Alfred, M. D., 1630 N. 18th Street, Philadelphia.
1887—Leake, E. N., M. D., Butler.
1884—Leckie, J. W., M. D., Hazleton.
1894—Lentz, Levi R., M. D., Fleetwood.
1901—Leopold, H. P., M. D., 310 W. Chelten Ave., Philadelphia.
1894—Lichtenwalner, A. B., M. D., 2435 N. 7th Street, Philadelphia.
1895—Lindabury, A. A., M. D., Scranton.
1904—Loos, Julia C., M. D., Harrisburg.
1896—Lyle, William Howard, M. D., 1435 Girard Ave., Philadelphia.
1868—MACFARLAND, MALCOLM, M. D., 1805 Chestnut Street, Philadelphia.
1893—Macfarland, Duncan, M. D., 3924 Chestnut Street, Philadelphia.
1886—Maddux, D. P., M. D., 801 Madison Street, Chester.
1878—MALIN, WILLIAM H., M. D., 8408 Germantown Ave., Chestnut Hill, Philadelphia.
1892—Mansfield, Harry K., M. D., 19 W. Chelton Ave., Germantown, Philadelphia.
1881—MANSFIELD, J. R., M. D., 5620 Germantown Ave., Philadelphia.
1904—Mantz, E. S., M. D., South Bethlehem.
1891—Marks, William F., M. D., 118 N. 9th Street, Reading.
1885—Marsden, Biddle R., M. D., Chestnut Hill, Philadelphia.
1883—MARSHALL ANNA M., M. D., 1420 Chestnut Street, Philadelphia.
1891—Marshall, R. S., M. D., 424 Shady Ave., Pittsburg.
1899—Martin, Robert W., M. D., 1831 Chestnut Street, Philadelphia.
1877—MARTIN, W. J., M. D., 1712 Carson Street, S. S., Pittsburg.
1901—Martin, W. Joline, M. D., Wilkinsburg.
1904—Matlack, Thomas, M. D., 2356 E. York Street, Philadelphia.
1878—MAUER, J. M., M. D., Washington.
1891—McCauley, J. C., M. D., 128 Connecticut Street, Rochester.
1879—McCLELLAND, J. B., M. D., 409 Penn Ave., Pittsburg.

1867—McCLELLAND, J. H., M. D., 5th and Wilkins Ave., Pittsburg.
1884—McClelland, R. W., M. D., 5th and Wilkins Ave., Pittsburg.
1883—McCLURE, ELIZA H. LANG, M. D., 1919 Wallace Street, Philadelphia.
1893—McCracken, William, M. D., 2110 Carson Street, Pittsburg.
1903—McDowell, A. S., M. D., 155 N. 5th Street, Reading.
1888—Mercer, Edward W., M. D., 1705 Arch Street, Philadelphia.
1871—MERCER, ROBERT P., M. D., 223 W. 3d Street, Chester.
1896—Merrell, A. F., M. D., Hallstead.
1871—MIDDLETON, CALEB S., M. D., 1523 Girard Ave., Philadelphia.
1904—Miller, C. R., M. D., Steelton.
1904—Miller, M. L., M. D., Mohnsville, Mohn's Store P. O.
1887—Miller, Z. T., M. D., 2013 Carson Street, S. S., Pittsburg.
1900—Minahan, Thomas, M. D., Carnegie.
1883—MITCHELL, J. N., M. D., 1505 Spruce Street, Philadelphia.
1875—MOHR, CHARLES, M. D., Lawnton Ave., above Oak Lane, Philadelphia.
1893—Monroe, J. E., M. D., Orange, Mass.
1893—Moon, S. B., M. D., 1314 Eighth Ave., Beaver Falls.
1901—Moore, J. E., M. D., Coraopolis.
1893—Moreland, George B., M. D., Smith Block, Pittsburg.
1901—Morrow, Emory H., M. D., Altoona.
1891—Mueller, G. A., M. D., Empire Bldg., Liberty Ave. and 5th Street, Pittsburg.
1888—Murdock, Robert, M. D., 160 S. Main Street, Wilkesbarre.
1901—Muth, F. L., M. D., Wilmerding.
1894—Myers, Charles Elwood, M. D., 170 Green Lane, Manayunk, Philadelphia.
1904—Nicholson, Harland C., M. D., 2000 Wallace Street, Philadelphia.
1901—Nicholson, H. S., M. D., 621 Arch Street, Allegheny.
1893—Northrop, H. L., M. D., 1729 Arch Street, Philadelphia.
1891—Norton, Claude R., M. D., 700 N. 40th Street, Philadelphia.
1898—Palen, Gilbert J., M. D., 1831 Chestnut Street, Philadelphia.
1896—Palmer, Charles R., M. D., West Chester.
1904—Palmer, Wayland R., Hollidaysburg.
1884—Parker, G. W., M. D., 1404 S. 6th Street, Philadelphia.
1883—PARKER, T. ELWOOD, M. D., Woodbury, N. J.

1870—PARSONS, ANSON, M. D., Springboro.
1881—PARSONS, E. C., M. D., 275 Walnut Street, Meadville.
1897—Paxson, O. H., M. D., 1733 Arch Street, Philadelphia.
1880—PEACH, WILLIAM, M. D., 58 Monterey Street, Allegheny.
1900—Peck, John L., 332 Washington Ave., Scranton,
1881—PERKINS, C. W., M. D., 403 Broad Street, Chester.
1883—PETTINGILL, ELIZA F., M. D., 300 N. 10th Street, Philadelphia.
1891—Phillips, Joseph R., M. D., 15 E. 8th Street, Erie.
1897—Piper, R. L., M. D., Tyrone.
1880—PITCAIRN, HUGH, M .D., 206 State Street, Harrisburg.
1895—Pitcairn, R. C., M. D., 5518 Ellsworth Ave., Pittsburg.
1894—Pollock, Martha H., M. D., 210 Pine Street, Harrisburg.
1891—Pond, Edward H., M. D., Smith Block, Pittsburg.
1886—Posey, L. P., M. D., 1435 Walnut Street, Philadelphia.
1896—Powel, Franklin, M. D., Madison and 5th Streets, Chester.
1883—POWELL,, W. C., Jr., M. D., Bryn Mawr.
1871—PRAT, TRIMBLE, M. D., Media.
1900—Prizer, E. T., M. D., Lancaster.
1896—Pursell, James P., M. D., 419 Connell Bldg., Scranton.
1904—Quackenbush, F. B., 4700 Chester Ave., Philadelphia.
1901—Ramsey, H. E., M. D., 713 Arch Street, Allegheny.
1897—Raue, C. Sigmund, M. D., 1621 Chestnut Street, Philadelphia.
1883—READING, J. H., M. D., 1811 Green Street, Philadelphia.
1886—Reading, L. W., M. D., 1629 Green Street, Philadelphia.
1888—Reading, Thomas, M. D., Hatboro.
1896—Redman, John L., M. D., 1336 Spruce Street, Philadelphia.
1886—Reeves, Joseph M., M. D., 1525 Spruce Street, Philadelphia.
1904—Reitz, J. J., M. D., Walnutport.
1904—Richards, Charles M., M. D., Reading.
1896—Ridge, Jonathan T., M. D., 1617 N. 7th Street, Philadelphia.
1878—RINEHART, C. C., M. D., 4637 Centre Ave., Pittsburg
1894—Rinehart, S. M., M. D., 293 Western Ave., Allegheny.
1901—Roberts, E. S. Pettit, M. D., 1221 3d Ave., New Brighton.
1880—ROBSON, J. W., M. D., 350 Winebiddle Ave., Pittsburg.
1904—Rochester, J. R., M. D., 863 N. 7th Street, Philadelphia.
1883—ROSSEAU, L. G., M. D., 118 S. Negley, Ave., Pittsburg.
1894—Rotzell, W. E., M. D., Narbeth.
1888—Sandel, J. H., M. D., 49 Centre Ave., Plymouth.

1872—SARTAIN, HARRIET, J., M. D., 212 W. Logan Square, Philadelphia.
1901—Sawers, F. C., M. D., Pittsburg.
1896—Schantz, Henry F., M. D., 402 N. 5th Street, Reading.
1892—Schantz, M. Hassler, M. D., 402 N. 5th Street, Reading.
1883—SCHREINER, EMMA T., M. D., Cor. Wayne and Maplewood Aves., Germantown, Philadelpiha.
1886—Seibert, W. A., M. D., 43 N. 4th Street, Easton.
1900—Seibert, Walter M., M. D., 43 N. 4th Street, Easton.
1868—SEIP, C. P., M. D., 316 N. Highland Ave., Pittsburg.
1889—Shallcross, I. G., M. D., 1631 Arch Street, Philadelphia.
1879—SHANNON, S. F., M. D., Sewickley.
1885—Shellenberger, C. N., M. D., P. O. Box 781, Colorado Springs, Colo.
1903—Shute, A. Clement, M. D., 421 High Street, Pottstown.
1900—Simmons, C. W., M. D., 1628 N. 18th Street, Philadelphia.
1897—Simmons, S. S., M. D., Susquehanna.
1883—SLOUGH, F. J., M. D., 845 Hamilton Street, Allentown.
1892—Smedley, Charles D., M. D., Wayne.
1902—Smith, Alfred G., M. D., 1066 E. Montgomery Ave., Philadelphia.
1889—Smith, George W., M. D., 806 N. Broad Street, Philadelphia.
1887—Smith, Mary E., M. D., 48 E. Diamond Street, Allegheny.
1887—Snader, E. R., M. D., 1919 Arch Street, Philadelphia.
1900—Snyder, E. S., M. D., Lancaster.
1904—Snyder, L. A., M. D., Ashland.
1894—Somerville, W. H., M. D., 1214 Hanover Street, Philadelphia.
1896—Spahr, Charles E., M. D., 10 W. Market Street, York.
1904—Speakman, William W., M. D., 1831 Chestnut Street, Philadelphia.
1889—Spencer, William, M. D., 1820 Chestnut Street, Philadelphia.
1881—STAMBACH, H. L., M. D., 15 W. Victoria Street, Santa Barbara, Cal.
1904—Steckel, E. K., M. D., Orwigsburg, Pa.
1894—Steele, William G., M. D., 1431 Girard Ave., Philadelphia.
1891—Stephens, W. R., M. D., Wood Street, Wilkinsburg.
1904—Sterner, L. H., M. D., Porter's Sideling.
1894—Stewart, G. W., M. D., 1728 Chestnut Street, Philadelphia.
1903—Stewart, Wm. A., M. D., Pittsburg, Pa.
1901—Stitzel, J. W., M. D., Hollidaysburg.

1904—Straub, D. W., M. D., Bethlehem.
1904—Straub, E. L., M. D., Minersville.
1885—Strong, J. Wilmer, M. D., 2049 N. 13th Street, Philadelphia.
1889—Strong, Walter, M. D., 2105 N. 13th Street, Philadelphia.
1904—Summers, Robert S., M. D., 2610 N. 12th Street, Philadelphia.
1904—Super, A. H., M. D., Tamaqua.
1896—Sureth, Theodore, M. D., Scranton.
1904—Swalm, T. W., M. D., Pottsville.
1901—Taylor, Amos O., M. D., 1415 12th Ave., Altoona.
1904—Teghtmeier, C. E., M. D., 1237 Shackamaxon Street, Philadelphia.
1881—THATCHER, J. W., M. D., 35th and Hamilton Streets, Philadelphia.
1877—THOMAS, CHARLES MONROE, M. D., 1623 Arch Street, Philadelphia.
1886—Thompson, J. H., M. D., 515 Penn Ave., Pittsburg.
1897—Thompson, J. J., M. D., Carbondale.
1887—Thompson, Landreth W., M. D., 1701 Green Street, Philadelphia.
1898—Thurston, Leon, M. D., Pittsburg.
1886—Tindall, Van R., M. D., 323 Reed Street, Philadelphia.
1891—Tomlin, R. E., M. D., 2057 N. 8th Street, Philadelphia.
1896—Tortat, Albin, E., M. D., 3727 Ridge Ave., Philadelphia.
1896—Trites, Charles S., M. D., 4500 Baker Street, Manayunk, Philadelphia.
1901—Tuller, John J., M. D., 1935 Chestnut Street, Philadelphia.
1896—Ulrich, Silvester, M. D., Middletown.
1881—UMSTEAD, D. B., M. D., Tacony, 23d Ward, Philadelphia.
1883—Van Baun, W. W., M. D., 1402 Spruce Street, Philadelphia.
1886—Van Deusen, Edwin H., M. D., 2032 Tioga Street, Philadelphia.
1896—Van Lennep, G. A., M. D., 1833 Chestnut Street, Philadelphia.
1881—VAN LENNEP, W. B., M. D., 1421 Spruce Street, Philadelphia.
1898—Van Tine, J. Lewis, M. D., 1613 Girard Ave., Philadelphia.
1901—Varner, Anna D., M. D., 616 Wood Street Wilkinsburg.
1889—Vischer, Carl V., M. D., 1429 Poplar Street, Philadelphia.
1902—Von Scheliha, Paul F., M. D., 333 S. 12th Street, Philadelphia.

1892—Waggoner, G. W., M. D., Corry.
1901—Wallace, H. D., M. D., Allegheny.
1897—Walter, J. A., M. D., Punxsutawny.
1896—Walter, Robert M. D., Walters Park.
1894—Ward, J. D., M. D., 806 S. 3d Street, Philadelphia.
1894—Ware, H. B., M. D., Cor. Washington and Linden Streets, Scranton.
1904—Walker, H. Ellen, M. D., Sharon.
1894—Wasserman, Flora E., M. D., 1909 N. Broad Street, Philadelphia.
1904—Watson, Franklin, M. D., Willow Grove.
1894—Waylan, Julia Gould, M. D., 1832 Tioga Street, Philadelphia.
1881—WEAVER, CHANDLER, M. D., Fox Chase, 23d Ward, Philadelphia.
1894—Weaver, H. S., M. D., 1621 Chestnut Street, Philadelphia.
1902—Weaver, W. A., M. D., 1534 Master Street, Philadelphia.
1883—Weaver, W. P., M. D., Bristol.
1894—Webster, Samuel C., M. D., Media.
1901—Welsh, Thomas, M. D., 2414 Carson Street, Pittsburg.
1891—Wesner, M. A., M. D., Houtzdale.
1889—White, Roland T., M. D., 914 Western Ave., Allegheny.
1903—Whitman, A. Francis, M. D., Wilkesbarre.
1904—Wiest, Harry G., M. D., Schuylkill Haven.
1892—Wilbur, B. K., M. D., Bryn Mawr.
1899—Wilford, H. H., M. D., Bangor.
1866—WILLARD, L. H., M. D., 236 Western Ave., Allegheny.
1870—WILLETS, WILLIAM, M. D., Williamsport.
1903—Williams, Harry E., M. D., Coatesville.
1873—WILLIAMSON, M. S., M. D., 1311 Arch Street, Philadelphia.
1904—Wooldridge, F. V., M. D., 408 2d Avenue, Pittsburg.
1904—Yale, Arthur W., M. D., 1901 Park Avenue, Philadelphia.
1904—Yerkes, Frank E., M. D., Ambler.
1888—Yocum, C. A., M. D., 365 Chestnut Street, Pottstown.
1880—YODER, DANIEL, M. D., Catasauqua.
1896—Youngman, Maurice D., M. D., Atlantic City, N. J.
1894—Ziegenfus, A. Frank, M. D., 1124 Wallace Street, Philadelphia.

HONORARY MEMBERS.

1883—Allen, H. C., M. D., 5142 Washington Ave., Chicago, Ill.
1898—Custis, J. B. Gregg, M. D., 110 E. Capitol Street, Washington, D. C.
1866—Doran, Charles R., M. D., Jacksonville, Fla.
1876—Jones, S. A., M. D., Ann Arbor, Mich.
1900—Nash, E. B., M. D., Cortland, New York.
1883—Phillips, W. A., M. D., Cleveland, Ohio.
1898—Porter, Eugene H., M. D., 181 W. 73d Street, New York.
1868—Rockwith, F. A., M. D., East Saginaw, Mich.
1892—Williamson, Alonzo P., M. D., Dayton Bldg., 202 Nicollet Ave., Minneapolis.

CORRESPONDING MEMBERS.

1873—Alvarez, Paz, M. D., Madrid, Spain.
1900—Burnett, J. C., M. D., London, England.
1873—Chauvet, Fernand, M. D., Tours, France.
1873—Eidherr, Francis, M. D., Vienna, Austria.
1883—Hughes, Richard, M. D., Brighton, England.
1893—Pope, Alfred C., M. D., London, England.

NECROLOGICAL LIST.

1902—Adams, W. K., M. D., died July 17th, 1903.
1866—Ashton, A. H., M. D., died February 18th, 1883.
1866—Barnaby, John E., M. D., died January 5th, 1869.
1867—Barrett, Charles B., M. D., died June 5th, 1871.
1882—Bernard, H., M. D., died ———.
1866—Blakeley, W. James, M. D., died January 14th, 1877.
1884—Boyd, G. S., M. D., died May 10th, 1901.
1870—Bratt, Benjamin R., M. D., died January 31st, 1872.
1895—Brierly, Frank Walter, M. D., died June 17th, 1899.
1866—Brooks, Silas S., M. D., died July 2d, 1871.
1883—Brown, Samuel, M. D., died March 22d, 1892.
1891—Brown, Wm. K., M. D., died October 3d, 1900.
1885—Buchman, Francis, M. D., died July 14th, 1898.
1891—Burlingame, F. W., M. D., died ———.
1883—Burr, Richard, M. D., died March 30th, 1885.
1873—Caruthers, R. E., M. D., died January 3d, 1885.
1868—Charlton, S. T., M. D., died November 9th, 1886.
1863—Childs, William R., M. D., died November 11th, 1888.
1866—Cook, William H., M. D., died March 11th, 1879.
1866—Cooper, John F., M. D., died August 19th, 1899.
1866—Cote, M., M. D., died May 29th, 1878.
1866—Cowley, David, M. D., died October 30th, 1886.
1898—Cresson, Charles C., M. D., died ———.
1868—Dake, J. P., M. D. (honorary), died October 28th, 1894.
1866—Detweiler, Henry, M. D., died April 21st, 1887.
1886—Dowling, John W., M. D. (honorary), died January 14th, 1892.
1871—Dreibelbis, David L., M. D., died March 24th, 1872.
1878—Duff, P. S., M. D., died April 1st, 1904.
1870—Earhart, Jacob R., M. D., died June 23d, 1891.
1891—Ely, J., M. D., died ———.
1870—Farrington, E. A., M. D., died December 17th, 1885.
1880—Ferson, John L., M. D., died July 12th, 1896.
1866—Freise, Michael, M. D., died February 4th, 1880.
1866—Frost, J. H. P., M. D., died January 21st, 1875.

1889—Gangloff, Charles, M. D., died January 22d, 1898.
1866—Gardiner, Richard, M. D., died March 22d, 1877.
1866—Gause, O. B., M. D., died January 11th, 1895.
1899—Godshall, Samuel G., M. D., died April 4th, 1903.
1867—Gramm, Gustavus E., M. D., died November 2d, 1901.
1886—Griffith, Jethro J., M. D., died July 5th, 1893.
1881—Griffith, Silas, M. D., died May 21st, 1904.
1877—Griffith, Wm. M., M. D., died April 20th, 1903.
1877—Grumbeid, William, M. D., died ———.
1866—Guernsey, H. N., M. D., died June 27th, 1885.
1870—Guernsey, W. F., M. D., died February 16th, 1877.
1867—Gumpert, B. Barton, M. D., died June 23d, 1903.
1895—Hall, William D., M. D., died August 2d, 1897.
1888—Hawley, S. B., M. D., died March 6th, 1890.
1868—Helmuth, William Tod, M. D. (honorary), died ———.
1886—Herron, James A., M. D., died November 15th, 1868
1866—Hofmann, Herman H., M. D., died April 4th, 1891.
1886—Holcombe, John Randolph, M. D., died December 17th, 1896.
1884—Hosfeld, George, M. D., died November 9th, 1884.
1885—Houghton, Henry C., M. D. (honorary), died ———.
1873—Houard, J. G., M. D., died April 24th, 1878.
1882—Ivins, Horace F., M. D., died January 1st, 1899.
1866—James, Bushrod W., M. D., died January 6th, 1903.
1866—James, David, M. D., died June 6th, 1873.
1866—Jeanes, Jacob, M. D., died December 18th, 1877.
1866—Koch, Augustus W., M. D., died May 4th, 1886.
1889—Lazear, Lyttleton L., M. D., died ——, 1898.
1866—Lee, J. K., M. D., died November 10th, 1887.
1869—Lee, John K., M. D., died May 31st, 1899.
1876—Lilienthal, S., M. D. (honorary), died October 3d, 1891.
1867—Lippe, Adolph, M. D., died January 23d, 1888.
1871—Lovejoy, E., M. D. (honorary), died August 15th, 1872.
1868—Malin, George W., M. D., died January 18th, 1883.
1886—Malin, John, M. D., died November 29th, 1889.
1866—Marsden, J. H., M. D., died August 27th, 1883.
1865—Martin, Henry Noah, M. D., died September 1st, 1889.
1881—May, Newton, M. D., died January 27th, 1889.
1866—McClatchey, R. J., M. D., died January 15th, 1883.
1887—Millen, J. C., M. D., died ——, 1901.
1870—Moore, Thomas, M. D., died March 25th, 1882.

1867—Morgan, John Coleman, M. D., died June 27th, 1899.
1866—Neville, W. H. H., M. D., died January 22d, 1904.
1873—Nichol, Thos., M. D. (corresponding), died June 14th, 1890.
1869—Ostrander, W. M., M. D., died August 23d, 1881.
1868—Paine, H. M., M. D. (honorary), died December 5th, 1903.
1868—Payne, Wm. E., M. D. (honorary), died March 9th, 1877.
1878—Pereira, Ignacio, M. D. (corresponding), died April 18th, 1881.
1894—Peters, J. Elwood, M. D., died ———, 1904.
1868—Pfoutz, J. S., M. D., died ———.
1866—Preston, Coates, M. D., died August 9th, 1881.
1868—Pulte, J. H., M. D. (honorary), died February 24th, 1884.
1882—Pursel, J. E., M. D., died March 15th, 1885.
1872—Rankin, John Stephen, M. D., died April 21st, 1899.
1866—Raue, Charles G., M. D., died August 21st, 1896.
1853—Reading, Edward, M. D., died March 7th, 1889.
1866—Reading, John R., M. D., died February 14th, 1866.
1870—Reinhold, H. E., M. D., died March 6th, 1879.
1871—Rittenhouse, S. R., M. D., died June 26th, 1895.
1895—Roberts, C. W., M. D., died March 20th, 1903.
1866—Roberts, R. Ross, M. D., died April 4th, 1875.
1887—Rodes, Joseph, M. D., died ——, 1898.
1866—Rosseau, L. M., M. D., died September 25th, 1882.
1874—Schmucker, Francis R., M. D., died ———.
1872—Scott, James L., M. D., died August 15th, 1876.
1883—Sharkey, W. P., M. D., died August ——, 1903.
1892—Shoemaker, D. W., M. D., died April 27th, 1904.
1883—Skeels, James S., M.D., died ——, 1891.
1880—Smedley, Isaac G., M. D., died December 1st, 1899.
1870—Spencer, J. H., M. D., died ———.
1872—Speth, W. F., M. D., died May 11th, 1881.
1889—Starr, Pearl, M. D., died July ——, 1900.
———Stauffer, D. R., M. D., died March 16th, 1874.
1867—Stevens, C. A., M. D., died January 17th, 1881.
1868—Talbot, I. Tisdale, M. D. (honorary), died July 2d, 1899.
1870—Taudte, F., M. D., died March 27th, 1878.
1902—Taylor, William Gardiner, M. D., died March 4th, 1904.
1871—Thomas, Amos R., M. D., died October 31st, 1895.
1891—Tindall, Harry Brooks, M. D., died January 9th, 1892.
1882—Trites, W. B., M. D., died January 19th, 1890.

1867—Walker, Mahlon M., M. D., died March 31st, 1896.
1870—Waters, George H., M. D., died ——, 1892.
1880—Way, J. H., M. D., died September 3d, 1887.
1866—Williams, Thomas C., M. D., died October 1st, 1899.
1866—Williamson, Walter M., M. D., died December 19th, 1870.
1866—Williamson, Walter, M. D., died May 5th, 1874.
1868—Wood, James B., M. D., died April 14th, 1889.
1897—Yetter, A. F., M. D., died May 8th, 1898.
1874—Young, J. H., M. D., died June 21st, 1894.
1880—Zerns, Wm. M., M. D., died September 21st, 1887.

MEMBERS AND VISITORS REGISTERED AT THE MEETING.

Ashcraft, L. T.
Barclay, H. B.
Bartlett, Clarence.
Bayley, W. D.
Belville, J. E.
Bender, I. L.
Betts, B. Frank.
Bittner, A. J.
Blake, Eva M.
Boileau, John D.
Boyer, Francis W.
Boyer, Mrs. F. W.
Boyer, Anne A.
Bradley, Thos. B.
Brewer, Mary.
Brickley, E. W.
Brunnell, C. M.
Buckley, Mrs. H. T.
Bullard, J. Arthur.
Carmichael, T. H.
Carter, W. D.
Chase, Theodore L.
Christine, Gordon M.
Clarke, Anna C.
Coe, Sarah J.
Cole, Hills.
Detwiller, J. J.
Dietz, W. G.
Dinsmore, S. W. S
Doolittle, E. D.
Doolittle, Mrs. A. D
Dreher, C. B.
Elliott, J. D.
Eyerman, John.
Fleagle, Maurice M.
Fowler, Frederick.
Gans, D. W.
Garis, F. A.
Gerhart, Weber L.
Gerhart, Mrs. W. L.
Gilbert, I. B.
Gilbert, Mrs. I. B.
Goff, Ella D.
Golden, G. M.
Gramm, Edward M.
Gramm, Theodore J.
Gray, F. C.
Haas, Geo. H.
Haines, E. D.
Haines, O. S.
Hall, Wm. S.
Haller, Geo. C.
Harner, D. W.
Hartley, Arthur.
Hartman, G. W.
Hassler, M. A.
Hilll, E. H.
Holben, M. J.
Holden, Mrs.
Heysinger, I. W.
Hood, J. R.
Howell, F. E.
Humphreys, E.
James, D. Bushrod
James, John E.
James, Jr., John E.
Jones, Mrs. Plato T.
Keim, Wm. H.
Kerridge, Philip M.
Kiefer, J. D.
Kinney, C. Spencer.
Kistler, A. L.
Kistler, D. S.
Kistler, G. M.
Kistler, H. E.
Kistler, J. S.
Kistler, M. S.
Kistler, W. T.
Kistler, Mrs. W. T.
Kline, D. C.
Kline, Mrs. D. C.
Kline, Rada.
Korndœrfer, Aug.
Korndœrfer, Miss A.

Kressly, J. A.
Kresssly, Roma J.
Kistler, Horace E.
Lane, N. F.
Langwell, J. P.
Lawrence, F. M.
Lehn, Mrs. T. S.
Lesher, Sara.
Lesser, Katharine.
Loos Julia C.
Luckenbach, Mrs. Horace.
Matlack, Thomas.
McGeorge, W.
McKinstry, F. P.
Merrell, A. F.
Middleton, C. S.
Miller, C. R.
Mitchell, Mrs. H. H.
Mohr, C.
Moreland, Geo. B.
Muth, F. L.
Northrop, H. L.
Peck, J. L.
Pettit, H. H.
Piper, R. L.
Powell, W. C.
Pratt, Trimble.
Raue, C. S.
Reitz, J. J.
Richards, Charles M.
Richards, Mrs. C. M.
Rinehart, S. M.
Roberts, George W.
Rosebery, C. W.
Rotzell, W. E.
Satchell, Wm. F.
Schantz, Henry F.
Schantz, Margaret H.
Schreiner, Emma T.
Seibert, Walter W.
Seibert, Wm. A.
Seip, C. P.
Shute, A. C.
Shute, M. Emma.
Slough, F. J.
Smith, Geo. W.
Snader, E. R.
Snyder, L. A.
Spencer, Wm.
Sterner, L. H.
Stewart, Wm. A.
Straub, D. W.
Straub, Mrs. D. W.
Straub, Mrs. E. H.
Summers, Robert S.
Summers, Mrs. R. S.
Super, A. H.
Thomas, A. D.
Thomas, Alice L.
Thomas, Charles M.
Thomas, Harriet E.
Thomas, Marion E.
Tomlin, R. E.
Townsend, Irving.
Van Deusen, Edwin H.
Van Lennep, G. A.
Van Lennep, W. B.
Volger, Wm. H.
Walter, E. C.
Walter, Robert.
Warfield, E. D.
Weaver, Chandler.
Weaver, Mrs. C.
Weaver, H. S.
West, E. J.
Williams, H. E.
Wilford, H. H.
Yale, A. W.
Yerkes, Frank E.
Yoder, Daniel.
Yoder, Mrs. Daniel.

PAPERS
AND
DISCUSSIONS.

REPORT OF THE

SECTION OF GYNÆCOLOGY.

Gynæcology for the General Practitioner, by W. A. Stewart, M. D.
The Obligations of the Physician In the Care of Obstetric Cases, by B. Frank Betts, M. D.
Medical Gynæcology, by Millie J. Chapman, M. D.
Diseases of the Fallopian Tubes, by T. L. Chase, M. D.
A Plea for the Indicated Remedy, by S. W. S. Dinsmore, M. D.
Eserin in Post-Operative Intestinal Paralysis, by T. J. Gramm, M. D.
Retro-Displacements of the Uterus, by N. F. Lane, M. D.

GYNÆCOLOGY FOR THE GENERAL PRACTITIONER.

WM. ALVAH STEWART, M. D., PITTSBURG.

In these days, when medicine is so highly specialized, the general practitioner finds little that is left as his province. Believing that many cases that are either referred or find their way to the specialist could quite as well be treated by the family physician, it seems that a paper on the above subject might at least provoke a profitable discussion.

Just what conditions classed under the head of gynæcology can the general practitioner hope to successfully treat? In the writer's judgment, conditions requiring medical aid, conditions requiring local treatment, conditions requiring operative measures, such as curettage and plastic surgery, naturally belong to the family physician.

All medical gynæcology may be as successfully treated by the general practioner as by the specialist, providing he be not consumed with the fallacy that a homœopathic prescription is one made on the subjective symptoms alone. Only after a careful physical examination may we hope to arrive at a proper conception of the relative significance of symptoms. By no other method may we determine the conditions that can be met by medicine alone, those requiring local treatment and those that are surgical. We have drugs, many of them capable of curing a large proportion of the conditions met with

in women's diseases. It is not the purpose of this paper to give their indications. Suffice it to say that if we take our case in such a manner that we obtain a just conception of the conditions present and what must be accomplished before we may hope to bring about a condition of health, and then select a similimum from among those remedies that have in their pathogeneses the ability to correct such a condition, we shall do all that the specialist can do and be sure to spoil for him many fine operations.

LOCAL TREATMENT.

I realize that a great difference of opinion exists as to the efficacy of local treatment. What results can we hope to obtain from local treatment such as tampons, douches, etc.? As the application of the homœopathic remedy through local treatment has been discussed in a former paper, we will address our remarks to the other benefits, if any, to be derived from this method of treatment.

The tampon, if properly applied, assists very materially in holding in place a uterus whose support has been weakened by child bearing, a depleted condition of the pelvic organs, or of the system in general. The tampon, preferably of lamb's wool, should be carried into the posterior cul-de-sac in such a manner that the uterus will be maintained in the proper position and the weight taken from the tired and relaxed ligaments, nerve irritation relieved, and the congested vessels allowed to empty themselves, giving the indicated remedy a much better opportunity to do its work.

Glycerine, on account of its hygroscopic properties, proves a very efficacious remedy used locally, in reducing inflammation in large boggy cervices. Hydrastis and Calendula used in the same manner are also serviceable in healing erosions. A few weeks of this sort of treatment is usually advisable to prepare the cervix for a trachelorrhaphy.

The douche, preferably a normal saline solution, 98° Fahr., is cleansing, and is useful to relieve congestion of the pelvic organs.

In the writer's judgment nothing more should be expected from local treatment.

ENDOMETRITIS.

Why do so many women suffer from endometritis? That the

condition is usually one caused by infection all will admit. This infection must necessarily come from without, and the doctor is usually the guilty party. The uterine probe has many sins to answer for. Remedies and local treatment sometimes palliate, but the consensus of opinion is that in most instances before we can effect a cure the cervix must be freely dilated and the uterus thoroughly curetted, using, in all chronic cases at least, a sharp curette.

LACERATED CERVIX.

Should a trachelorraphy be performed in all cases where the cervix is found to be lacerated? In answering this inquiry, we should note whether the following conditions be present, namely:

Is the cervix large, boggy, congested and infiltrated? Is it hard and fibrous? Has the laceration allowed the lips to evert, thus exposing the mucous membrane lining the canal to irritation resulting in erosions? Have the mouths of the cervical glands become occluded, forming retention cysts? Has the laceration weakened the support of the uterus, allowing it to be retroverted or retroflexed?

If some or all of the above conditions be not present, a trachelorrhaphy will be followed by failure. If the above conditions be present, a trachelorraphy will not only relieve these conditions, but a train of neurotic symptoms, and may prevent an epithelioma of the cervix forming later in life.

The operation should be radical enough to dispose of all cicatricial tissue, and the cervical canal left should be lined with healthy mucous membrane. A few days of preparatory treatment, consisting in puncturing the retention cysts and applying tampons saturated with glycerine or glycerine and iodine, is usually advisable.

LACERATIONS OF THE PERINEUM.

Should all injuries to the vaginal outlet be repaired? It is the consensus of opinion that they should all be repaired immediately following labor, but the fact remains that a very small percentage of them are repaired at this time, and many of them drift to the gynæcologist after years of suffering. The question then is, Should a secondary operation be done in all cases where a primary operation has been neglected?

Formerly we heard a great deal about reflex symptoms caused by scar tissue as the result of lacerations of the perineum. Many cases are referred to the gynæcological clinic, which undoubtedly belong in the nervous clinic. How, then, are we to decide whether a certain case needs operation?

If we bear in mind that the function of the perineal body is to hold the vagina and rectum well up under the pubic arch, so that the internal pressure will be exerted in the direction of the anal outlet rather than against the recto-vaginal septum, the task is an easy one. We may have lacerations involving the fourchette, extending backwards through the skin, which have existed for years without causing the slightest discomfort, the perineal body in such cases perfectly performing its function. These lacerations, in the writer's judgment, do not need operating unless the scar is found to be tender. Otherwise, the only good that would obtain from an operation would be the forced rest and consistent hygiene.

In another class of cases the laceration has extended to the perineal body, resulting in a tearing of the fibres of either the sphincter or the levator ani muscles, or both. In such cases the rectum and vagina will be found to have dropped backwards. If the laceration has existed for any length of time, we find the posterior wall of the vagina crowded down and with it the uterus, the anterior vaginal wall and the bladder. The train of symptoms familiar to you all of rectocele, vesicocele and prolapsus will be found to be present. In just this class of cases a successful operation which consists of uniting the fibres of the torn muscles will give the most brilliant results. The technique of the operation it is not necessary to review. Probably no operation has ever been devised for the correction of the above condition better than that described by Emmet more than thirty years ago.

It has not been the purpose of this paper to write an exhaustive article on the many subjects touched upon. It has rather been the writer's purpose to bring out the more salient points in the diagnosis and treatment of the more common conditions met with in women's diseases. The subject is not a new one, having been threshed over many times. The best that could be hoped is that a different view point might provoke a discussion that would be useful in determining a more consistent method of treatment for these cases.

DISCUSSION.

Dr. Julia C. Loos: The writer of this paper has tried to impress upon the general practitioner that the selection of the internal remedy must be based upon the local conditions. I have no idea of changing the routine practice, but I would like to say that the reason so many disappointments occur in attempting to use remedies for these conditions is because there has been an attempt made to adjust the prescription to the local condition, instead of taking a careful record of the patient and adjusting the prescription to the patient. It is the duty of every homœopathic physician to differentiate his patient, and note the condition of the patient's pelvis, and when he selects a remedy on the basis of the patient's characteristic symptoms he will have fewer disappointments, and gynæcology will become less and less surgery of the pelvis.

Dr. T. L. Chase: I think it is a good thing for us to have a paper occasionally on the non-operative treatment for these gynæcological conditions. The doctor has mentioned one point there that I agree with thoroughly, and that is the preliminary treatment for preparing a hypertrophied cervix for operation. Following that you restore that cervix, if such a course is indicated, as it is in the case he cites. The main thing for us to observe in carrying out these treatments is to make them aseptic. We see physicians constantly, where the tampons are made in the office while the physician is waiting upon the patient, saturated with glycerine, introduced without cleansing the parts and pushed up against the cervix. The only wonder is that more cases are not infected and that we do not see more cases of endometritis, such as the doctor's paper has called attention to. There are different firms throughout the country that put up these tampons in a sterilized form and placed in aseptic packages so they are not touched by the hand. After preparing the patient with antiseptic douche at the time of treatment, the paper is opened, the tampon only touched with a sterilized instrument, then carried into position and removed by the patient 24 or 48 hours later, as the case may be. That is not sufficiently carried out in the ordinary routine office treatment.

Dr. R. E. Tomlin: I have been impressed with the thought that the speaker has just uttered, that while a great many so-called general practitioners are doing this minor gynæcological work, they are doing it imperfectly, so that in a great number of cases there is more injury than relief, and for that reason I am particularly pleased that Dr.

Chase has emphasized that point. The paper is worth the time it took the writer to prepare it and the consideration we have given it this afternoon to bring out that point. It is a common thing, which I see occasionally in consultation, to see men, some of whom hardly ever wash their hands and some scarcely take off their gloves, yet they make vaginal examinations. They will take an instrument out of a soiled case and then wonder why they have a long train of pelvic symptoms, with the woman subsequently getting out of their hands into a hospital or into the hands of a specialist. I would particularly emphasize that point in the paper and in the discussion, that more thorough asepsis should be practiced.

Dr. J. A. Bullard: I am pleased with the remarks of the last speaker, and I think, unless a gentleman's gloves are new and clean, he should certainly take them off before making a vaginal examination.

Dr. A. W. Yale: I cannot agree with the writer of this paper that the treatment he suggests should be done by a general practitioner. I well remember Dr. James in his lectures saying, "It is more dangerous to do an imperfect curettement and leave a small speck of diseased membrane than not to have performed the operation at all." Curettement is an operation which requires the skill which is obtained from frequent performance of that operation, and which I believe the general practitioner performing it only two or three times a year, does not possess. Therefore, when curettement is necessary, a specialist should be called in to perform it. It looks very simple, particularly when you go to an instrument store and see an arrangement like a screw driver, which you can run up in the uterus, turn it around, and in a few minutes have your operation all done. An instrument like that cannot be used on the uterus from the mere fact that diseased membrane probably remains inside the uterus. Another point which I would like to suggest is that when tampons are used for erosion of the cervix or for laceration, that you simply try on a few of your patients Picric acid or Nitrate of silver.

Dr. J. E. Belville: I want to say a word in behalf of the general practitioner. I think the writer of the paper is perfectly right in saying that the average general practitioner should do curettage. It is an operation which every man who comes out of any well-regulated college is thoroughly taught, and absolute aseptic technique goes with it. The idea that the general practitioner does not get a chance

to make more than two or three curettements in the course of a year is absolute nonsense, for the average number of cases of miscarriage requiring curettement are much more numerous in the course of a year even for that condition alone, and a man who has handled a curette, and handled it properly, knows when he has removed diseased tissue, whether he is a specialist in that line or not. I think it is an imputation on the intelligence and skill of the general practitioner to say that curettements should be sent to the specialist.

Dr. G. B. Roberts: I believe all this talk about the average general practitioner and the specialist is nonsense. The question comes right down to the man. There are general practitioners who can do as fine curettage as a specialist. I saw not long ago one of the most noted men in this country, I think one of the finest operators ever seen, do a large number of operations, and every one of them was admirable with the exception of his curettage. That is a strange thing. I actually ached for that man, because I believe lots of our fourth year students can do better curettage than he can. At the same time he is one of the most skillful men I know. I also want to raise my voice against the general practitioner, if there is such a class of people, and I think there is, throwing stones at the specialist by the statement that he is led to operate on account of the glory that there is in operation. I am not aware that specialists, as a rule, throw mud at the general practitioner by stating that he holds his case day after day and month after month merely to get the dollars out of it. We do not take that ground, and I do not think any general practitioner is justified in taking the ground that the glory of a surgical operation has anything whatever to do with the surgeon's judgment about what he is going to do. I think you must credit us with being earnest men who are trying to do the best we can for our patients exactly as you are, and I wish that somebody would take a sponge and wipe entirely off the slate the term general practitioner and specialist.

Dr. N. F. Lane: I believe with the last speaker a great many general practitioners can curette the uterus just as well and perhaps better than a great many specialists, but I do want to object to the term minor surgery applied to surgery within the uterus or the cervical canal, or even the perineum, because I believe that we get very bad results, we get invalids following an unclean repair of the cervical canal or an improper curettage. You will have infection of

the tube. You will have milk leg. You may have any of the results that follow infection. That may occur with these operations which are termed minor. I consider that operations there require just as much skill and just as much care as operations within the abdominal cavity, and, in fact, I believe that we can infect the abdominal cavity more and get less bad results than we can by infecting the cervical tissue.

THE OBLIGATIONS OF THE PHYSICIAN IN THE CARE OF OBSTETRIC CASES.

B. FRANK BETTS, M. D., PHILADELPHIA.

In a paper recently published in a prominent New York medical journal, entitled "Causes, Consequences and Care of Injuries to the Parturient Canal," the following statement is made: "It is no exaggeration to claim that a large portion of the work of the operating gynæcologist is but a consequence of, or a sequel to the inefficiency of the general practioner in his obstetric work." Similar statements appearing in other journals have induced me to inquire into this subject which calls in question the professional ability and social standing of a large portion of the medical fraternity, and as a gynæcologist I believe that they are not warranted by facts as we find them.

It is not uncommon for gynæcologists to be obliged to listen to the recital of accusations made by patients who have been led to believe that their ills have resulted from the neglect or the insufficient skill of physicians who were in attendance at the time of the parturition, when they are aware of the fact that many accidents which occur at this time are unavoidable, therefore I believe there is need of a better understanding of this subject, and from a sociological standpoint the question is worthy of our serious consideration. The obstetric art has kept pace with other departments of medical practice in a great deal that counts for the relief of suffering and saving of human life, and our profession does not ignore its obligations to women in one of the most important epochs in the history of the human race. When the welfare of half of the community is intrusted to its care—whilst in the performance of the highest and noblest social function—that of giving birth to offspring, we cannot believe that it fails to appreciate the burden of the responsibility assumed.

Parturition has been looked upon as a purely physiological process, and the necessity for skilled attendance at this time is not fully appreciated by the public in general. In many districts physicians are debarred from giving their cases the attention necessary because they are not consulted in time, or because they are required to relinquish their attendance early, to save expense to the family. For the skill required, the time consumed, and the tax upon the physical resources of the profession, this part of medical practice is most unremunerative, and the common mind will not appreciate the fact until the profession places a just estimate upon the value of the services rendered. At present practitioners are assuming obligations which they are debarred from fulfilling by reason of social customs, which it is our duty to modify by persistent educational methods.

The first step in this direction will be taken when we clearly define the nature of the service required of the physician in the care of obstetric cases.

It covers three distinct periods:

First—The period of gestation.

Second—Parturiton.

Third—The lying-in period, as it is usually termed.

In all our modern text books on obstetrics, the necessity for professional supervision of cases of gestation is recognized and especially in homœopathic practice do we find many arguments advanced which should induce patients to consult their physician during this period, not only to secure their own comfort, but the welfare of offspring also. In all cases the physician labors under many disadvantages when he knows nothing of the patient's family history, or her own inherent physical defects before parturition, and many physicians refuse to attend cases that have not consulted them upon these subjects before this time. The necessity for a careful measurement of the pelves of primagravidæ—and when necessary a premature delivery, are facts well recognized by the profession; and if the patient cannot assume the expense of such measurements and advice, the services of our charitable institutions should be invoked.

The detection of malpositions of the fœtus near the onset of labor is important, and the professional care of the patient's health previous to this period has much to recommend it, especially in the application of tests for puerperal albuminurea, which we all recognize as a danger signal preceding eclampsia.

During parturition the physician assumes very important obliga-

tions, as all will admit. In the matter of securing surgical antisepsis at this period I need say nothing, as this fact is so generally conceded. Yet to be available for good this must be secured at the very onset of labor and the physician cannot be held responsible for defects, if they occur in his absence.

The skill of the profession has diminished the perils of childbirth in almost a miraculous manner, yet it is important that this skill to be efficient should be ever vigilant. The close of the second stage of labor is attended with the greatest danger to the integrity of the parturient canal, especially at the perineal outlet, and the physician's skill is then taxed to the uttermost.

But the record the profession has made within the past thirty years is most creditable in this respect. The eminent Matthews Duncan stated long ago, that in sixty per cent. of obstetric cases an extended tear of the perineum would occur, especially in primipara. At the present time the percentage can be reduced to thirty per cent., as cited by eminent authorities in Reed's Text Book of Gynæcology, page 257, or as in the obstetric clinic at Halle, where every known method of perineal protection was resorted to, only 21.1 per cent. of the cases suffered from a laceration extending beyond the commissure in primipara and 4.7 per cent. in multipara.

Lateral incision of the vulva does much to guard against a serious rupture of this kind, and as no harm arises from it, if a clean instrument is used and the parts are cleaned before the incisions are made, it is frequently resorted to. When the vulva is misplaced upward at the outer extremity of the vagina, as when the fourchette is close up to the lower border of the symphysis, extensive tears are inevitable, if the child is large and the parts are rigid. When the distance between the anus and fourchette measures an inch and a half or two inches, instead of being barely an inch in extent, which is normal, it is liable to be torn by the direct pressure of the presenting part, and when such a rupture has started the delivery of the aftercoming parts, such as the shoulders or breech, may result in greatly extending it. The physician often reaches the case just after the head has been delivered with but little apparent rupture, the delivery of the shoulders follows, and he is blamed for the extensive rupture produced; or if instruments are required in cases of retarded labor due to small vulvar opening and rigid perineum, some rupture is often inevitable. Irreducible occipito-posterior positions which the physician reaches late, often require the application of forceps, and a tear results. In some

cases the vitality of the tissues has been seriously impaired, and the physician cannot be held responsible for rupture that ensues or the possible failure in his efforts to secure good union by immediate operation afterward.

Very strong uterine action, or voluntary muscular efforts upon the part of the patient, will result in rupture in many instances, especially when the structures of the perineum are very rigid from age or are friable from general inanition.

There is a concealed laceration of the fibres of the muscles constituting the floor of the pelvis or an attenuation of the fibres of some or all of these muscles which frequently occurs and constitutes one of the most complicated accidents incident to childbirth. When these muscles lose their tone, are small and atonic, or when their nerve supply is impaired, we have a condition subsequently developed, which, up to the present time, has been generally overlooked. It is the cause of great discomfort and often precedes complete prolapsus uteri at a later period of life. The condition may be called prolapsus of the pelvic floor, for a line drawn from one tuber ischii to the other will be deflected by the bulging of the pelvic floor and in sitting this part of the body receives the impact first instead of the ischial tuberosities. The ordinary repair of a lacerated perineum closes the vulvo-vaginal orifice, but in many instances the prolapsed condition of the pelvic floor remains the same, and no adequate means have yet been devised for effectual relief. Whilst the extreme degree of prolapsus of the pelvic floor mentioned above may not be met with until near the close of the child-bearing period, the influences producing this defect frequently originate in some protracted or complicated delivery, and the physician is not responsible for the condition that follows.

Whilst the early application of the forceps or their injudicious use may lead to laceration of the cervix and even the vaginal walls, the long conical cervix, due to hyperplastic inflammation before conception, will almost always be extensively torn at parturition, and in cases in which there has been an irreducible anteflexion of the cervix from lack of development in the anterior vaginal wall, lacerations are most liable to occur, and under such circumstances the physician is not responsible for the accident.

When a very extensive injury to the vaginal passage has occurred, the physician in general practice cannot be expected to secure for the patient the best results by operative treatment unless he is

assisted by a specialist equipped with all the surgical appliances necessary. Yet in the absence of the latter much better results will be obtained if the parts to be brought together are thoroughly exposed to view, whilst they are cleansed and the sutures applied. The patient should lie across the bed, and when solutions and all the necessary surgical appliances are in readiness the vulvar orifice should be thoroughly separated by my obstetric vaginal speculum, a modification of Sims' speculum, and so constructed as to be self-retaining.

With a wad of sterile gauze the upper portion of the vaginal passage about the cervix is plugged to prevent discharges from coming down, and a curved needle, threaded with catgut, is passed underneath the upper edges of the tear first, and in successive steps the rents are closed from above downward toward the perineum by approximating the torn mucous edges of the vaginal canal, whilst the perineal laceration is the last to claim attention. In some cases two tiers of vaginal sutures will be required to accurately approximate the several layers of the muscular pelvic floor, the innermost tier remaining buried, of course.

In this manner all injuries to the parturient canal below the cervix are repaired as soon after the completion of the third stage of labor as the patient's condition will permit.

Without excusing any neglect upon the part of physicians, it must be recognized that it is not always possible to prevent injury to the parturient canal during the passage of a large child through a small vulvar orifice, and neither is it always possible to secure union after operative treatment, performed in the most skillful manner, if the patient's general condition of health is bad.

During the lying-in period the physician's attention is again required until the patient can be pronounced well, or so far recovered as to make it unnecessary for him to continue his professional attendance. Nothing is more desirable in the education of the laity upon this subject than the recognition of the fact that there can be no time limit fixed for the lying-in period suited to all cases. As in other instances in which patients are confined to their apartments from sickness or disability, the physician should satisfy himself of the recovery of the case and the physical ability of the patient to assume the arduous duties pertaining to motherhood before he voluntarily relinquishes his care and attention.

The self-retaining Obstetrical Speculum, devised by B. F. Betts, M. D., in position so that the posterior vaginal walls can be repaired subsequent to laceration.

DISCUSSION.

Dr. T. L. Chase: I think that the doctor has given us a very instructive paper on this point, especially bringing out the obligations of the attending physician to obstetric cases. More and more I think we see among the members of the profession a tendency to look to the welfare of their patients during pregnancy. I think that is becoming more and more important and more recognized. So as to the point he has made regarding pelvimetry, pelvimetry is just as necessary in the case of the patient who is going to give birth to her first child as the stethoscope is to the heart that has murmurs for you to differentiate. The examination of the urine is another point that is being looked to. How often we hear of physicians who have patients, of whom they say, "This patient is complaining of headaches that appear from day to day." They lose their appetite and have gastro-enteric irritation, etc., which usually means more or less intoxication, and that intoxication, if allowed to go on, is very likely to bring the patient to the lying-in chamber infected and subject her to eclampsia. Then, in regard to the point that was made as to the delivery of the cases and the percentage of lacerations of the perineum that we have during that time, the doctor has told us thirty per cent. at the present time is considered normal for the general run of cases. We can cut that in half, and bring it down to fifteen per cent. if we will at the proper time make lateral incision in the vulva, and in that way enlarge the vulvar opening, making a clean cut at the side instead of the central perineal tear. Putting in a few sutures after the labor will give us a well-formed perineum in a majority of cases and bring down the percentage of lacerations to about fifteen. Of course, care of the patient during puerperium is of importance.

Dr. J. E. James: It has been several years since I was a student in college, but I have a distinct recollection of such men as Dr. Wallace giving us instruction that when children were born we should not expose the patient. Everything was done under cover. My recollection is that all we ever saw of a bedside demonstration was the sheet over the woman, whether in obstetrical or gynæcological work. If leucorrhœa was present the speculum was brought out from under the sheet to show us its character.

I think the change from that method accounts for the good work that is now done in obstetrical cases. No physician is justified, in

my judgment, in leaving a case of obstetrics, no matter what they may do during the actual confinement, without knowing just what has occurred by a thorough and careful examination of the vagina, and repairing any injuries, as Dr. Betts has suggested. It is from that, I think, that the good results have come in obstetrics. Those of us who have had some experience in hospital work, where patients offer the poorest opportunities for careful obstetrical work, coming as they do from the poorest class, know as a fact that the proportion of lacerated perinei to-day is very much smaller than it used to be. As teachers we sometimes wonder if we will get enough lacerated perinei to properly teach a class how to repair them. That is the best answer to the question that I know of. Without wanting to instruct your obstetricians at all, because I do not make any pretensions in that line, I have seen a few deliveries in the time my hair has been growing white, and I would like to make one suggestion that will still lessen the work of the gynæcologist and general practitioner. Do not keep your patients lying on their backs during the time of their recovery from childbirth. It is not a natural position. The uterus then is very heavy; it is naturally very soft for six or eight weeks, and it easily gets bent and turned back, and nothing in nature is going to lift it up if it gets fast down in the pelvis. Let the patient lie upon the side, or turn over on the abdomen, if necessary, to get the uterus in its natural position, and in that way you will lessen our income as gynæcologists for the patient's benefit.

Dr. T. J. Gramm: This paper of Dr. Betts is eminently practical. It embodies the views of a gynæcologist concerning the practice of obstetrics, and we are properly qualified to speak about this subject, inasmuch as the injuries that are consequent upon improper attendance during the parturient act come to us for repair. The point that the doctor has made, that physicians in general practice do not receive sufficient remuneration in obstetric cases, and that the people—not the physicians themselves, but the people—should be trained to expect a far better service during their parturition, is one I think particularly timely. The fact of the matter is we should carefully examine the woman. In other words, we should use the preliminary obstetrical examination, a subject that has been a favorite one of mine for a number of years, and that obstetric examination is not only proper to be applied in hospital practice, but likewise in general practice. For a number of years I have attended no case in which I did not make a preliminary examination, and fortunately I have

been able to apply the same principles and the same practice to quite a large share of obstetric practice. Of course, it is hardly necessary to review the preliminary examination in toto. It is, however, perhaps advisable to point out that during that examination it is possible accurately to determine the position of the child in almost every instance. Now, of course, the pelvimeter is an unused instrument in America, comparatively speaking. The abandonment of the use of the pelvimeter is in all probability due to the fact that we have been led to believe, by our teachers in obstetrics, that contracted pelves are comparatively rare in America, whereas the fact is that we have far more cases wherein the pelvis is contracted in America than we have any idea of. The diet of the patient should be regulated during her pregnancy. The subject of puerperal eclampsia has been referred to in this connection. It is a fact that the size and development and constituents of the tissues of the fœtus are to be modified and are very materially influenced by the diet of the patient. These are matters that are subjects for the general practitioner. I could refer to cases in substantiation of these views. I was called last winter in a case where a woman was in her eighth delivery. Previous to that she had always had a bad time. Some of her children were living, but no physician apparently had ever thought to examine the passages and bony canal of that woman. There were three physicians in attendance at the time, and each one had applied the forceps, with the usual result that the labor was frightfully protracted, the forceps had repeatedly slipped off, and the woman was far more lacerated than she would have been had she received the proper care prior to the time of her accouchement. She was only delivered by craniotomy upon the child, which had died during the efforts at her delivery. Another case is one I have just left. This is her tenth day. I think this is her fourth or fifth delivery. She has been subjected to the usual series of obstetrical operations, including one accident of fracture of the pubic bone. On her coming to me, I determined to make a very close examination of this patient, and found that her antero-posterior diameter, that is to say, the available diameter, was three inches. I induced labor in that case at the eighth month, delivered the child by the feet, and she has to-day a living infant. This case, if it had not fallen into the hands of a good general practitioner, would in all probability have been treated in the ordinary way, that is to say, of being allowed to again reach the time of her nine months of pregnancy, and in all

probability she would again have had the same results as have attended the numerous instances that preceded this one. I want to say in conclusion that my reading of the literature is that epiphysiotomy is gradually being abandoned. Theoretically it is a procedure which ought to furnish good results, and no doubt it does in certain instances. I think, however, it is a very dangerous procedure to recommend to the general practitioner, not thoroughly conversant with the special anatomy of the parts involved..

MEDICAL GYNÆCOLOGY.

MILLIE J. CHAPMAN, M. D., PITTSBURG.

In medical gynæcology as in chemical medicine, all things that contribute to good nursing and hygiene are essential and then, sometimes, remedies are helpful. At times it is difficult to decide whether medicine or surgery is the correct treatment, then it is well to test remedies first; when recovery does not follow the system will better resist shock and other trials of the use of the knife. Again it is very evident that mechanical means will at once remove the lesion, but circumstances may render such measures impracticable, and drugs, even potentized ones, have in time induced health. In the midst of enthusiasm over the establishment of an institute for drug provings, which has long been needed, it is well to refer to the accomplishments with the use of remedies as we have imperfectly known them. Occasionally these results have been more than surprising, as when A—. C—. appeared and explained that when coughing a substance protruded from the vagina. Upon examination this proved to be a polypus attached high in the cervix of the uterus. She was sensitive and nervous, and insisted upon an anæsthetic during removal, and that a prearranged trip must be taken prior to the ordeal. She had styes, warts and some other symptoms that led me to prescribe Staph. 6x. Some weeks later, she reported that about ten days after her visit to me a slight bloody watery discharge occurred, and since there has been no evidence of the growth, and there has been no return for twenty-three years. There had been post nasal adenoma from an early age. The mouth breathing and snoring lessened at maturity, but there had been symptoms indicating this remedy all her life. Dilating, torsion, curetting would have removed the growth,

but would not have changed the constitutional condition which permitted its development. Since that experience I have used the same remedy with equally favorable results. In one case a fungous growth on the gum led me to see other indications of this drug. I have had some very good results from using Staph. 6x internally and Staph. Cerate locally in cases of procidentia. I often dilate the cervix for the benefit it may have upon the local circulation, then apply the cerate upon wool tampons. When there has been laceration with formation of cicatricial tissue I have used the Graphites Cerate locally until the firmness disappeared, then changed to the Staph., which seemed to contract and strengthen the tissues so that the uterus resumed an improved position satisfying the patient. The same treatment has wrought wonders where the glandular endometritis was attended by a greenish, gluey leucorrhœa and excessive flow at the monthly period. Ustilago Maid. 3x is equally important. Kali Mur. 6x or 30x has been very efficient in similar cases where the discharge resembled pus. Where the inflammation had been succeeded by induration and depression in the pelvis, Aur. Mur. Nat. 3x will astonish those not familiar with its use. Ferr. Iod. 3x in acute endometritis with falling. Sepia 30x has served me better where there was a descent or retroversion with relaxed tissues. Phyto 3x, 6x, both internally and locally, where the position of the uterus was not greatly changed, but the induration and enlargement was marked—Arctium Lappa 2x, and Lilium Tig 3x, in acute cases are valuable agents. Fucus Vesic. will cure goiter of young women, but must be continued six, nine, or twelve months before the cure is complete. Likewise endocervicitis or endometritis accompanied by those prostrating headaches can be cured by use of Acon. 2x, Bell. 3x, Bry. 3x-30, but the case must be under continued observation with the well selected remedy and good care. Some patients change location so frequently that the results of any treatment is uncertain. However, every physician has some, even the poor, who will not forsake him, and it is possible to know whether your efforts are attended by cures or palliation. All substances of diet which irritate the digestive tract should be excluded from the menu, all articles of clothing which constrict or destroy normal circulation of any organ should be exchanged for garments created by greater intelligence and then extended research and deep thought upon the provings we have, or the more scientific ones soon to be had, will reveal signals, beacon

lights, indications that will enable us to apply the law of similia so wisely that each year a growing number of women will be made comfortable.

DISEASES OF THE FALLOPIAN TUBES.

THEODORE L. CHASE, M. D., PHILADELPHIA.

Within the domain of abdominal surgery inflammatory conditions of the Fallopian tubes are the most frequent causative factors in the production of intra-abdominal disease. The anatomy of the tissues involved explains their extreme susceptibility to inflammatory changes. Under variable conditions, the mucosa of the Fallopian tubes is especially vulnerable to microbic infection; the muscular structures are feebly developed, and the serous covering is sensitive to affections involving surrounding structures. The blood supply of the Fallopian tubes and broad ligaments, under favorable conditions, demonstrates its liability to morbid changes sufficiently to seriously interfere with the nutrition of the parts.

All of the tissues of the Fallopian tubes afford favorable media for bacterial habitation. The predominant germ varies according to the character of the infective process. Inflammation of the Fallopian tubes may be produced by exposure to colds, they may result from injuries, or may occur when substances are injected into the uterus and forced out into the lumen of the tube. These come under the head of the non-infectious inflammations.

The infectious form of inflammation is due to the invasion of the various pathogenic bacteria, such germs usually gaining entrance to the Fallopian tubes from the uterine cavity or from a previously infected peritoneum. The infection may originate from the close proximity of a diseased appendix or other portion of the intestinal tract, or from the blood and lymph streams. Tuberculosis involving any portion of the peritoneal surface is prone to affect the Fallopian tubes.

The gonococcus is the germ most frequently encountered. It gains access to the tubal mucosa from the cavity of the uterus. The staphylococcus usually involves the deeper structures of the myometrium and is conveyed to the Fallopian tubes by the blood and lymphatic vessels. The staphylococcus enters directly from the uterus to the

tube. The bacillus coli commune may extend from the uterine mucosa or penetrate the intestinal wall and so gain access to a previously inflamed tube. Kleinhans examined 218 pus tubes and found gonococci to be the predominant germ in 74 cases; the streptococci are the next in the order of frequency, being followed by the staphylococci, coli commune, tubercle bacilli and others.

The invading micro-organisms are found most in evidence in the early stages of inflammatory processes. When the germs are confined within limited areas, they are gradually destroyed by their own excretions. It is often difficult to define the character of the infective process, from the patient's history and subjective symptoms, excepting upon general principles. Certain cases point to infection following gonorrhœa, and others in the train of a puerperal infection, whether this be from abortion or labor at full term. An autoinfection of the Fallopian tubes is mentioned by some authors, but the majority assume that it is impossible for pathogenic germs to originate de novo within the tissues. We believe that they must at some previous time have entered from without.

In all the inflammatory diseases of the Fallopian tubes we have the classic signs of inflammation: there are present the vascular injection, the transmigration of leucocytes, the small, round-cell infiltration, and the swelling of the epithelium. In the early stage of inflammation, the secretion of the tube does not exhibit a marked metamorphosis. It is at first increased in amount and of a fluid character; later, it becomes mucoid, with a transparent, smoky appearance. Sometimes it is milky, displaying occasional small blood streaks. The discharge varies in consistency, owing to the different proportions of leucocytes, red blood cells and epithelium. Macroscopically, the acute process shows congestion of the blood vessels, which are dark in color and protrude prominently beneath the peritoneal covering. The tube becomes thickened and lengthened, sometimes twisted in its course; the fimbriated extremity being subjected to the greatest congestion, as evidenced by its violet-blue color and the exudation of a glairy mucus, which can be expressed from the abdominal ostia. In some instances, even the initial excretion is purulent in character.

In chronic inflammation of the tube new connective tissue forms, thus making the tube firmer and less flexible than normally. The extravasations of blood, which can only be seen by the microscope in the acute stage, are observed with the unaided eye, as

bluish-red spots. The hyperplasia of the connective tissue may proceed to such an extent that the tubal walls are increased in thickness to a centimeter or more; sooner or later, plastic lymph is thrown out about the tube. This organizes and forms adhesions of varying degree between the Fallopian tube and other viscera. In these cases the fimbriated extremity will be found closed.

The symptoms of acute salpingitis are usually ushered in with a chill and corresponding rise in the pulse rate. The temperature varies from 101° to 104°. Severe pain is complained of in the ovarian region upon the affected side. Bimanual examination reveals extreme sensitiveness of this area. If the disease is of gonorrhœal origin, both tubes are involved. Many of the cases go on to pus formation, which produces more or less distention of the tube; some containing as much as twelve ounces or more. If the case has been due to septic germs it progresses to a chronic stage, producing either an abscess or a general septicæmia. In some instances resolution takes place by absorption of the pus, with the possible formation of a hydro-salpinx.

Tubercular salpingitis is usually bilateral. The tubercles are found beneath the mucous membrane, or the process may extend to the muscular coat of the tube and produce extensive caseation, and, in some instances, the formation of a pyo-salpinx. Calcareous deposits are sometimes found in the caseous material. Plastic peritonitis is noted about the fimbriated end of the tube.

In differentiating the varieties of diseases of the Fallopian tubes the history of the case affords valuable information. In many cases the diagnosis is made positive by a bacteriologic examination, which demonstrates the presence of the infective germ. In specific cases we have the history of gonorrhœa and the identification of the germ by the microscope. In the septic cases there is the history of puerperal infection, following abortion or labor at full term; if the case is seen early, a microscopic examination of the discharges reveals the presence of the infective germ. The tubercular cases present the usual history of tuberculosis, the disease being frequently recognized in other organs. In most instances, however, the condition is apparent only at the time of operation.

Inflammatory diseases of the Fallopian tubes may be secondary to some other intra-abdominal disease. Appendicitis is the most common factor in such cases. The close proximity of the appendix to the right adnexal organs should be remembered in all cases involving the

right pelvic region. Infection travels from the appendix to the pelvic structures through the lymphatic channels, which enter the meso-appendix and pass onward, emptying into the mesenteric and meso-colic glands, also by way of the appendiculo-ovarian ligament to the right adnexa and uterus. The blood vessels likewise form avenues along which infection is apt to be carried to other organs in the affected region.

Cases presenting positive evidence of tubo-ovarian disease and also having a mixed train of symptoms such as pain radiating to the epigastric and umbilical regions with nausea or vomiting, constipation or diarrhœa, and pelvic pain extending upward into the abdomen, with rigidity of the overlying muscles, arouse strong suspicion of co-existing appendicular inflammation, and should be considered from this standpoint, which, of course, indicates the earliest operative interference; the one exception being cases of gonorrhœal infection where both uterine appendages are involved, and a slow, progressive pelvic peritonitis has developed.

The treatment of diseases of the Fallopian tubes is necessarily variable, when we take into consideration the condition of the patient, the onset of the inflammation, whether of sudden or slow development, and the character of the pelvic conditions found upon bimanual examination. Internal medicines accomplish much in subduing the inflammation in some cases. An ice bag placed over the affected region early in the attack often controls the spread of the inflammatory process. Cases having an abrupt onset, with the inflammation extending from the tube and rapidly involving the peritoneum, showing no control from prescribed remedies or the ice-pack within a period of from three to four days, should be treated by celiotomy and removal of the source of inflammation.

Cases wherein the patient has an attack of inflammation of the tubes and recovers, but from some slight cause has a relapse, should be considered from an operative standpoint only. When a patient has recovered from an attack, with her pelvis filled with inflammatory exudate and numerous adhesions, producing a condition of semi-invalidism, she will have to be operated before health can be restored. Some of these cases are relieved to a limited extent by tampon treatment, but such cases are few and far between. Before tampon treatment is inaugurated in any case of tubal disease, a systematic pelvic examination should be made, in order to ascertain that the case is one suitable for a slow absorption of the exudate by

internal medicines and tampon treatment, persistently carried out. Such selected cases require several months of persistent treatment to effect permanent relief.

The conservative work performed by most surgeons upon the Fallopian tubes and ovaries is the outcome of long experience by operators in gynic surgery. Total ablation in the treatment of all pelvic disorders requiring surgical interference is justly a thing of the past. Few cases operated at the present day will suffer the regret in future years that inevitably follows such procedures. In rare cases where total ablation becomes necessary, the woman often exchanges one condition of suffering for another equally disagreeable, with perhaps the freedom from acute, physical pain, as the solitary, mitigating circumstance. The neurologists have brought our attention to these facts and they deserve the most careful consideration on the part of all operators. The woman, who, by the performance of an operation, has been endowed with hot flashes, dyspnœa, vertigo, rapid taking on of fat, and the loss of sexual desire, remains still a subject for the physician's care. In any cases where the most obstinate and troublesome symptoms have been present, complete relief will be afforded by puncture of an ovary and the liberation of adhesions. Where the Fallopian tubes have been the offending members, conservative work, such as the opening and thorough cleansing of the tube, and freeing of both ostia, will be followed by the same prompt relief. I have seen many cases that have required extensive operative measures upon the pelvic organs, where the leaving of a small portion of an ovary prevented an early climaxis.

In every abdominal operation for disease of the Fallopian tube or ovary, I have removed all tissue which was diseased beyond repair, and at the same time have endeavored to save portions of an organ sufficient to insure the performance of its normal function, even though such function were only partial. In looking over the records I find 87 cases where part of an ovary or tube was left in situ, and among these cases there were no fatalities. This is mentioned because many operators condemn conservative work upon the tubes and ovaries where a part of the organ has been diseased, asserting that such procedures increase the mortality rate. Conservative surgery of this character depends upon several factors for its ultimate successful results. Primarily, when part of an organ is left, we must be sure that the blood supply to that portion is sufficient. When the Fallopian tube has been operated upon, and its diseased areas re-

On the right is shown method of suturing Fallopian tube, insuring patency of abdominal ostia.
The left side illustrates manner of conservative treatment of ovary.

moved, in order to insure the ultimate success of the operation, the endometrium must be placed in an aseptic state by curettage, and the application of antiseptics to its surface, if necessary, thus preventing a reinfection of the mucosa of the tube from the cavity of the uterus.

These remarks do not include all cases. A woman who is nearing the menopause will not be benefited by conservative work in the pelvis. The judgment of the operator must decide whether or not an ovary or tube can be saved.

In the treatment of salpingitis the fimbriated extremity is found closed, dilated and club-shaped. Under these circumstances the fimbria is opened, the contents of the tube evacuated, and the tube thoroughly washed out with a small syringe, using bichloride solution, one to four thousand. After this, the tube is straightened out and a fine probe gently introduced, to see that the uterine ostium is patulous. Our object is to keep the fimbriated extremity of the tube open; this is done by splitting up the fimbria a distance of about one centimeter, everting the edges, and beginning at the cut surface, suturing around the ostium, coming back to the starting point, so that the edges cannot come together and agglutinate. (See illustration.)

In hæmato-salpinx, which is usually due to a twisting or prolapsus of the tube which causes a damming up of blood, with consequent dilatation of the lumen, the condition is not septic, and tubes thus affected should not be removed. If there is an associated displacement of the uterus, with more or less adhesions, these should be liberated and the uterus brought into normal position and retained there by shortening the round ligaments. Hydro-salpinx, which is often the result of an old salpingitis, is a dropsical condition of the tube, which should also be treated by evacuation and sterilization of the lumen, leaving the tube in position for future function. If an ovary is found partially diseased, the affected area should be removed; even though only a small portion of the parenchyma be healthy, it should be left in position, noting carefully that it has the proper blood supply, and that raw surfaces are covered over and all bleeding controlled. (See drawing.) This is important, owing to its bearing upon the future function of the tube. In a given case, a history of recent gonorrhœa or puerperal infection, following either abortion or labor, will cause us to refrain from the usual line of conservatism, owing to the septic character of the infection.

DISCUSSION.

Dr. D. B. James: I would like to say a few words in regard to Dr. Chase's paper. In the first place, I congratulate the doctor most heartily. His is an excellent view to take, but the trouble is, if we start in with conservatism where will conservatism end? I believe that the best policy is not to sacrifice any more than we can help, but on the other hand we must remove sufficient of the inflammatory trouble, or the seat of trouble, to insure perfect recovery. We must take into consideration the social life of the patient. In our hospital work cases must be cured in a hurry. They depend for their livelihood upon their ability to work. The consequence is they must be cured in a hurry. We operate numerous cases, I dare say, that would improve and give just as good results if we could treat them locally by placing them in a ward or in bed, had they an opportunity of being so treated. Apropros of Dr. Gramm's question awhile ago as to the way the Germans treat the bowels, why do all the German operators take out everything? They go to the extreme that we are trying to avoid. In ninety-nine cases of double high oophorectomies in the Vienna Hospital, there will be total obliteration of the organs. They go on the theory that they have infection simply by continuity of structure, if it be of gonococcic origin and there is lymphatic involvement. The consequence is, they say, the infection must be in the uterus. Remove only the endometrium and we will have it then in the metrium. The consequence is we are leaving behind what started the inflammation which in all probability has affected, on account of proximity, the myometrium and endometrium. If you remember the anatomy of the uterus, there is a very slight layer of cells, if any, separating the two. The endometrium seems to protrude into the metrium. The consequence is we are likely to have infection of the uterus. In consequence they remove everything. They claim that to leave behind the seat of origin is going to cause trouble again. If we remove only a portion of the ovary we still retain the function of the organ. That procedure I believe in most heartily. The trouble is if we remove the tube we find that the majority of infections have extended so far along the tube that if we curette at the same time to remove the seat of trouble we will awaken inside trouble that is liable to extend out into the myometrium. Operators will probably recall a number of such cases. I recall one particularly where we curetted against our best judgment less than

two weeks ago, and she was operated last Friday because we had awakened an old inflammatory condition that had been dormant for years. If we curette before operation, and then remove a portion of the tube, the chances are we are going to set up infection in the part remaining. The consequence is we have some of the remaining inflammatory condition that is going to cause almost the same trouble she had before. Conservatism is no doubt a proper thing. We must use individual judgment in all cases. Every case is a law unto itself.

Dr. G. B. Roberts: There is so much to be said upon this paper that one would hardly have time in five minutes to really get into the discussion. I hope that anything I may say which disagrees with the previous speaker will be taken merely as an expression of opinion. I have great faith in medical treatment of these cases early in their history, but that medical treatment does not include the use of the ice bag. I believe the ice bag theory is merely a theory. We cannot cool a broad stream of tissue down where germs are actually growing. I doubt whether there would ever be shown to be an actual good result from the use of the ice bag either in appendicitis or cases of salpyngitis. The great wave of radicalism involved the removal of the ovaries, tubes and uterus in many cases in which there was no microscopic or well recognized disease, but we have now swung to the other side. Men are trying to save organs which it is doubtful if it is possible to save. I think the attitude taken by the gentleman on the left a short time ago is a very sensible one. He simply hints at the fact that we are likely to err on the other side. The doctor who read the paper speaks of several cases in which there was no death, but does not tell the later history of those cases; but I believe if he will go over his cases he will find many of the women he mentions had to be operated on again, and many who were not operated on again would be much better off if they were. It is quite impossible to bring back to a state of health by such an operation as currettage a uterus which has once become infected. The infection involves not only the endometrium but the myometrium, and it is impossible to remove it, and no doubt we have had much suffering caused by currettage. The doctor speaks of opening the tubes, so that uterine drainage is accomplished. Recall in trying to do this the uterine opening will hardly carry a bristle. Any instrument passed through it involves great danger of breaking through into some portion of the tube which is not the mucous canal.

and thereby setting up more trouble. My own personal experience has been that with this wave of conservatism I have felt it is wrong to remove these organs if we can possibly save them, but I have had some very unpleasant results from my attempts, and I believe where we find the tube infected that the safer way is to remove that tube and the upper portion of the uterus and the other tube. I know it is radical ground. I restrict this operation purely to cases of infection, but I believe ultimately this will be done in almost all cases requiring removal of the tubes. Criticism is made that heat flashes, loss of sexual desire, and so forth result, but you must recollect these are only the ordinary accompaniments of the menopause. When we remove these organs there is nothing in the history of medicine to show that we do other than bring on the menopause a certain number of years earlier. It is a disadvantage. We do not like to do it, but we are in the quandary and must get out of it the best way we can. Taking the word in general I am not in favor of conservatism as pictured by the doctor, but rather in favor of the German method as to the removal of diseased organs entirely.

Dr. H. M. Gay: If I might be allowed to add a word from the standpoint of the general practitioner, and not a very old one at that, I would enter a plea for conservatism. The trend of the argument seems to be conservatism vs. radicalism, and it seems to me the argument offered for the radical removal of the organs in this case smacks rather of the hospital or dispensary. Unfortunately all of us do not have hospital and dispensary experience in our everyday practice, and do not have to watch these cases from the standpoint of the surgeon. He loses sight of the case, but the general practitioner is up against these disagreeable symptoms from the removal of the pelvic organs. It seems to me that the invariable removal of these organs, unless there be an absolute necessity, does the woman harm. I remember one case of pseudo-gestation that was operated by a very good operator and the tumor was removed. There had been many syptoms prior to that, of course, some symptoms of bleeding and some slight fever, but the tumor caused by pseudo-gestation was removed, whereupon the doctor went over to the other side of the uterus, picked up the tube, and said, "Well, I don't like the looks of this tube." I looked at the tube. I could not see anything much the matter with it. True, there was evidence of inflammation there, but there were no adhesions, no cysts, no hemorrhagic areas, but the tube upon being touched gave a kink. I said I could not deny that. The result was the woman lost her other ovary and tube, and we had a

very disagreeable time afterward controlling the symptoms. It seems to me we are not justified in taking too radical a view. Those of us who are ordinary dispensary surgeons have to cure our cases quickly, and those of us who are surgeons by profession rather than general practitioners are not up against this question, where general practitioners are.

Dr. A. W. Yale: Is there not a happy medium in this matter? Cannot the diseased tube that the paper speaks of be removed and the end leading to the uterus closed, leaving the uterus or leaving one ovary, as he suggests? There is such a thing as going too far and removing too much, producing serious results. Removal of all the organs of gestation is a very serious matter to a woman, causing a great shock to her nervous system, whereas if only the diseased organs are removed, the organs which are partly diseased, such as the tubes or part of the ovaries, the shock is not so great to the nervous system. I would like to add a word to what has been said and make a plea against the large number of curettements which are being done. So many women are being curetted for slight causes, and the future results are apt to be very disastrous, unless they are done by one who is doing a large number of curettements and doing it thoroughly. Not long ago I saw a general practitioner go into the uterus and do a little scraping and a little washing. The case went by. I have no doubt it will come to a section. Whereas, if it had been done thoroughly, or probably if it had not been done at all, the woman might have been saved.

Dr. N. F. Lane. I am in favor of conservatism, and very much pleased with the paper, but I am not very much in favor of conservative treatment of diseased tubes. I feel a great deal as Dr. James does about that matter. It does not matter much to the woman whether she has her tube or not unless it is very important or unless she is very anxious to bear children. On the other hand, the possession of the ovary or part of the ovary is very important, not only to the woman, but to her medical adviser. Those of us who have followed these cases of total ablation know what the result is. I think the general practitioner usually has to bear the brunt of that. So while I would be in favor of conservatism I would limit it mostly to the ovary.

Dr. Julia C. Loos. There is no reason why physicians who claim to be students of Homœopathy, as soon as the tubes become involved, should feel that it is necessary to resort to the knife. There are remedies that go deeper than any knife, and that will do what the

knife will not do. If we remove one ovary that is diseased and leave the other, it will not be many years before the malady goes to the other ovary. When that is taken out it goes to the nervous system. You cannot very well remove the brain and spinal cord, and you have the woman in horrible agony. Remedies will control these things, knives will not.

Dr. Anna C. Clarke: I wish to discuss this paper because people often come to a woman doctor and say they have been to all the men, and they all advocate cutting, and they come to a woman because they think she will not do it. I do not believe in doing it unless it is necessary, but I have been called to cases where conservative operations had been performed, and where I believe it would have been well had we not been quite so conservative. I think now of a case that was operated in our hospital at home a little more than a year ago, in which the appendix was removed. At the time the appendix was removed the ovary of that side was inflamed and there was some cystic growth. It was decided to leave that ovary intact. I was there and wanted the ovary removed, but it was thought best to leave the ovary because it was more conservative. I have the patient back on my hands with a growing ovarian tumor, and another operation in view. If it had been removed at the time of the first operation I do not believe the shock from the anæsthetic and from going into the abdomen would have been greater, and I think it would have paid us to do so. I have another case on hand in which an ovary was removed several years ago. At that time they said the tube was enlarged on the other side, and for a number of reasons the other ovary was left. That patient is under my care now with reflex trouble from a diseased ovary, and she should have it removed. She says she will die before she will have it out, because she nearly died under the other operation, and if they could not take out all the diseased parts at that time she has no assurance they will do it if she is operated again. I can think of a number of cases of that nature where if the work had been done thoroughly at the time we would have had better results. If an organ is diseased, and if we have tried our remedies before we risk an operation, we have no right in my estimation to open the abdomen and leave diseased tissue in there which we think will give trouble.

Dr. J. E. James: Most of these cases come to a surgeon or a gynæcologist after the remedies have been tried, after the physician has tried for weeks, months and years all the remedies of the school

to which he belongs and which he has studied from his youth up, and probably he has tried about ten times as many of those he has heard of as of those he knows about. The popular thing to do is not to take what you know, but to take what some new book or some new man has said is a good thing. I am in favor of conservatism, but not the conservatism that will refuse an operation, not a conservatism that will leave the woman in possibly the same condition. I do not believe in taking out part of a tube unless it is a very local trouble. Then I take it off the same as I would a part of a finger or arm, and not the whole of it. True conservatism is to take out all diseased conditions. I am not as enthusiastic over the conserving of an ovary as my friend Dr. Chase. My experience in that line has not been up to the standard that makes me feel like leaving a partly diseased ovary in situ. I have had too many times to go into the abdomen a second time and remove a portion of the ovary that was left in an inflammatory mass, and which it was impossible to get out at the time of the operation. I have had cases where it was so embedded in a body of inflammatory deposit that when you removed it you scarcely knew whether it was ovary or tube or what, except an inflammatory mass. A dozen times I have had to go in and make a second operation where a piece of ovary was left in an inflammatory tissue, because I did not find it, or because it was not found by another operator; but I am as much at fault as anybody else. We remove all we possibly can but we get cases where we cannot possibly remove all with safety, and we take the chances of a possible secondary operation. I am not quite as bold as my good friend Dr. Roberts, of New York, who would take out all of the uterus simply because the inflammation has traveled through that to the tube. If in my curettement, as risky as it may be in the hands of an inexperienced man, I do not find evidences of involvement of the metrium I am perfectly satisfied to take away the endometrium and leave the uterus to nature to help us out, because it does help out greatly if you remove the active inflammatory spot. Leave pus and you are going to have trouble. Remove all suppurating or infected tissue, and ninety-nine out of one hundred cases will get well. That is my conservatism. I believe in taking all that is diseased and leaving everything that is not diseased.

Dr. C. P. Seip: It seems to me that this discussion has a wide range and we have the house divided. I do not feel like dividing anything. I am a conservative surgeon and I am a radical sur-

geon. I believe in radical conservatism. I believe in not removing one iota more than is absolutely necessary. At the same time I agree with nearly all of the statements in the paper that has been read, but I cannot see what you are going to do with two or three inches of tube in there. It is of no use. Take the tube off close to the uterus. I have removed parts of ovaries and never had any trouble. I have been a little more fortunate than my friend Dr. James. I never had to open the abdomen a second time, because I am radically conservative.

Dr. T. L. Chase: My friend, Dr. Roberts, of New York, has read a number of papers in which I was very much interested, and which I felt were a benefit, but I take exception to a point he has brought up in criticism of this paper regarding the ice bag. If I ever saw any one thing in abdominal cases that will hold down inflammation it is the intelligent use of the ice bag. The one reason it did not do the work was because I had a poor nurse, or not enough nurses to keep that ice bag on night and day. If you take it off and put your hand over the area on which it lay you will find it as cold as ice itself. Therefore, it has kept the blood supply away. I have seen it time and time again, and if it did not give good results it was the fault of my nurse or the fault of myself, either my instructions were not clear or they were not properly carried out. Radicalism of the Germans is another point. Look at your German works. You have twenty pages of pathology and two lines of treatment. That is the thing we are trying to get away from. Our effort is to have a little more treatment and less pathology. If we have to go in and open the abdomen a second time, what has been the cause of it? Faulty technique, poor judgment. I have had to open the abdomen a second time. What was the reason? Because my judgment erred, and I could see why it was I had to go into that abdomen a second time. Of course, if you find a Fallopian tube that is swollen up, that is deep purple in color and by milking that tube you find some mucopurulent or purulent material, no surgeon is justified in leaving such a tube in position. That would be the most radical kind of treatment, because within twelve or fifteen days he would have to go into that abdomen again. That would be faulty judgment. The question has been brought up as to the use of the tube. Suppose you find one tube diseased beyond repair, and in the other tube you have a portion an inch long that is healthy, you amputate the diseased one and allow the other to remain. The statistics given by Dudley, of

Chicago, and also by two or three New York men who have looked up these cases very carefully, show that where they had one tube on one side and left an ovary on the other side, and in some cases only part of an ovary, seven per cent. of those cases become pregnant. It has been stated in this discussion that it makes very little difference if we bring the climaxis upon the woman a few years earlier than it would naturally come. Remember that this operation is done upon young women and women who are beginning to bear children. If we bring about an operative menopause, we have done what. We have taken away from that woman most that is dear to her. She cannot bear children, and that is the first thought of most of our noble women.

Follow conservatism out in this way. Dr. Roberts has said perhaps I did not follow the cases. I followed about one-third of those cases. The other two-thirds I lost sight of, as we do in a great deal of hospital work. One-third of eighty-seven cases have sent reports to me, and I have conferred with most of them, and they have said that they were absolutely well, they had their menstrual flow regularly and were free from pain. What more can we ask? They have symptomatic relief. You examine and find them anatomically cured. I do not think we want any more than that.

A PLEA FOR THE INDICATED REMEDY.

S. W. S. DINSMORE, M. D., SHARPSBURG.

With the rapid advances made in modern surgery (and no one can doubt the benefit they have been to the human race), the study of Homœopathic Materia Medica has been neglected, one would think by the evidences on almost all sides.

There is no doubt that many patients are now sent to the surgeon who in former years would have been cured by internal medication, but the idea of the necessity of an operation has to a large extent permeated the mass of the people, and it is not uncommon to hear women remark, and it would appear in rather a braggadocio manner, that they had been operated upon, thereby it would seem giving them a certain status in the community, much the same as that of a person who had been operated on for appendicitis; in other words, a certain amount of glory attaches not only to the surgeon but to his patient.

and I think that in part accounts for the fact that the physician is loath at times to take the slower and more certain road.

When the diagnosis reveals a malignant disease it would not only be folly but criminal to fail to give a patient whatever chance they may have through a surgical operation. In fact, the most difficult point in diagnosis, frequently, is to clearly differentiate, where the limit of attenuated medicines begins and where it ceases. On the other hand, if more attention was paid to homœopathic materia medica many persons now operated upon would be cured in a much easier, safer and by a less costly manner. The founders of our school were perforce compelled to look for the cure in the materia medica, surgery not having arrived at that stage where it held out any hope to those afflicted with pelvic and abdominal diseases. And while no doubt large numbers of women's lives were sacrificed for the lack of what modern surgery can give, yet withal valuable knowledge was accumulated, which it is not only our duty to use, but as progressive physicians to constantly add to so that those who come after us may not entirely lose sight of its value.

Before the days of the combination tablet and the proprietary remedy, we either cured, after patient study of our cases, or we failed, and it is just so today. Most of our so-called "cure-alls" fail, and those of us who cure have to fall back to the foundation built by our ancestors when they proved the drugs that are now so well known and so useful.

As an instance of the power of homœopathic remedies to cure I will cite the following case:

In February, 1904, Miss M. presented herself at my office for treatment with the following history: As a young girl she was perfectly healthy; when about the age of twenty-five she fell, in descending a pair of steps, and received a violent shock, and from that day has complained of various symptoms relating to her pelvic organs. Miss M. is a brunette, full blooded; weighs probably 140 lbs.; short in stature; age 33 years. Examination revealed the os and cervix swollen and inflamed; both ovaries were tender, especially the right one; bladder inflamed; bowels constipated. She had restless nights in which dreams of a frightful nature disturbed her sleep; appetite was impaired, while her tongue was clean, when a small quantity of food entered her stomach it seemed to be full; her bowels were distended with gas, with a great deal of rumbling noise. She had headaches, mostly in the back of her head of the congestive variety,

although she was never sick at the stomach. Some eye strain, for which I had her fitted with a pair of glasses. She now revealed symptoms which seemed to give her a great deal of annoyance, viz: constant inefficient desire for bowel motion, accompanied with great pain and weight; there was a constant desire to place her hand over the vulva. This seemed to be the most prominent subjective, in fact, the guiding symptom; it was very annoying, especially as she was constantly in the presence of other people, being a saleslady by occupation. I painted the cervix with this preparation:

℞ Glycerine ..... 1 oz.
Iodine ..... 2 dr.

And from the guiding symptoms gave her Lilium Tig. 3d x on No. 6 discs, two four times a day, and on retiring at night a dose of Lycop. 30.

This treatment was kept up two months, the application on account of the young lady's occupation being made only once a week—she was a Sunday patient.

At the end of that time the tenderness had entirely disappeared from her ovaries and the congestion from her womb. She was able to eat an ordinary meal without distention of her abdomen; her cheeks had regained their color; in other words, she was well.

Some may take exception to this being a homœopathic cure from the fact that two remedies were used, but they were never used in alternation; the Lycop. only being given at night; however, be that as it may, the cure was so complete, so benign, and so simple that I, for one, would be glad to repeat it many times should I find such clear-cut indications. This patient had suffered much from many physicians by way of local treatment and internal medication, having at one time been a resident in a hospital four weeks for the purpose of obtaining rest and local treatment; her uterus at that time was curretted, which no doubt did considerable good, but did not cure, inasmuch as at no time had that for which the system had been calling for been supplied it.

ESERIN IN POST-OPERATIVE INTESTINAL PARALYSIS.

THEODORE J. GRAMM, M. D., PHILADELPHIA.

The condition of threatened or existing post-operative intestinal paralysis is one of such serious import in abdominal section cases, that operators have long ago learned to dread the symptoms of its advent. They have also learned that its occurrence cannot always be predicted from the character of the case subjected to operation, for this dangerous condition may arise in certain cases in which the pathological lesion is not nearly so serious as in other cases which recovered. The surgeon therefore is concerned for his abdominal section cases until the day has arrived upon which the patient's bowels are usually moved, and until that result has been successfully accomplished; for with this evidence of the restoration of the intestinal function we know that the immediate dangers from the operation have largely been successfully overcome. The desire to attain this first step in successful after treatment has suggested a number of methods of procedure, and has also led to some diversity of opinion as to the choice of the cathartic drug. This idea of early post operative catharsis, particularly by means of salines, rests, I believe, upon the suggestion of Lawson Tait respecting the stimulation of the absorptive powers of the peritoneum by catharsis; thus will not only infection within the peritoneal cavity be limited, but the action of the bowels will also be early restored accompanied by all the good results which naturally follow. The time when the cathartic shall be administered has also been much debated, and the tendency, at least in America, has been constantly to diminish the interval for the bowels to move after operation, so that in some instances the cathartic has been given before the operation. Personally I am thoroughly convinced that in some cases the cathartic may be given too soon. In many instances there is comparatively little difficulty encountered in getting the bowels to move on the second or third day. But sometimes the attempt is not at once successful, due no doubt to defective absorption and impaired reaction, and then the cathartic may be favorably supplemented by enemeta either simple or compound. Washing out the stomach is also advantageous in over-

coming flatulance and allaying vomiting, in removing matters which have undergone fermentation, in counteracting the effects of the excretion of ether through the stomach, and in favoring absorption. But these measures at times fail, and their repetition not only does not succeed but seems directly to aggravate the general condition of the patient, so that insidiously is brought about a condition of the gravest danger. It is not necessary to dwell upon the distressing details of that awful picture, for every abdominal surgeon has doubtless had occasion to witness the gradually increasing abdominal distention, nausea, vomiting, prostration, restlessnes, rapid pulse and rising temperature, sensitive abdomen, and all the while no inclination to stool or the discharge of flatus.

For a long time this condition was believed to depend upon peritoneal inflammation, but autopsies have repeatedly failed to reveal the evidences of inflammation, and bacteriological examinations have often confirmed the negative finding. It is well known, however, that when not due to sepsis, this distressing picture is most often exhibited by patients who have been subjected to prolonged operation, during which the bowels have been long exposed and have had to endure considerable handling. Their protection during operation is therefore absolutely necessary, and rapid operating combined with as small an incision as will admit of rapid work is after all the safest plan of procedure. It has recently been proposed to partially close the abdominal wound as soon as the completion of certain stages of the operation will permit; as for instance in hysteromyomectomy after the tumor and uterus have been liberated and raised out of the abdomen; the further manipulations then being completed while the portions to be removed are lying upon the lower part of the abdominal walls.

The condition of post operative intestinal paralysis has been attributed to various causes. Olshausen (Centralbl. f. Gyn. 1888-10) who is said to have first written about it ascribes it to exposure of the bowels attending prolonged operations. Zuntz (Deutsch. med. Wochensch. 1884-717) showed that disturbances of the circulation interfere with normal absorption of intestinal gases, and so may lead to meteorism. Hence it occurs in collapse, febrile diseases, peritonitis, and in chronic and acute disturbances of the portal circulation. Experimentally meteorism is produced in animals by prolonged narcosis. Kader (Deutsch. Zeitschr. f. Chirurg. Bd. 33-p

60.) has shown that ligation of an intestinal loop only develops moderate distention after several days, while ligation of an intestinal loop with its mesentery, or ligation of the mesenteric vessels without affecting the permeability of the bowel leads in a few hours to pronounced meteorism and an increase to three times the size of the bowel. He also says that disturbances of circulation are a frequent factor in the flatulent colic of horses. Besides discussing these and other related facts in his valuable article, Moszkowicz (Wiener Klin. Wochensch. 1903-646) also points out that meteorism of course leads to interference in the circulation and thus a vicious circle is produced. Wiggin (Jr. Amer. Med. Assoc. 1902-627) and many others believe that meteorism is induced by lesions of the intestinal nerves, and Schlange (quoted by Arndt) thinks it arises reflexly through the splanchnic nerve. In his valuable article Craig (Amer. Jr. Obs, 1904, 449) has more fully discussed this phase of the subject. It appears that Auerbach's plexus of nerves situated between the longitudinal and circular intestinal coats and Meissner's plexus within the circular coat effect an autonomous performance of the intestinal function; Bayliss and Starling, and Mall (quoted by Craig) say that the intestine lives to some extent an independent life. The latter has also shown that severe catharsis in the preparation for the abdominal operation is also responsible in favoring intestinal paralysis since the bowels are no longer supplied with their accustomed stimulus from intestinal contents. We may feel assured that the causes of intestinal paralysis have been indicated in the above references.

During the last few years it has been found that physostigmin or eserin, derived from the Calabar bean, administered hypodermically is a remedy of remarkable value in these conditions of post operative intestinal paralysis and so efficient and reliable is its action that it may well be regarded as a life saver, both when the paralysis threatens and also as a prophylactic when exhibited early. The drug has been successfully used for some years in veterinary practice for meteorism and flatulent colic in cattle and horses, in which animals these conditions often prove fatal, as is well known. At the request of veterinarians the drug was added to the German pharmacopœia. The drug was used by them in the form of the sulphate, but because that salt is so deliquescent Van Noorden (Berliner Klin. Wochensch. 1901-1057) proposed its use in the form of a salicylate, in which combination it is far more stable, is almost equally soluble, and may be

divided and preserved in milk sugar to be used when required. His article also contains a number of references of its former use in atonic conditions of the bowel. It was he also who first suggested its more extended application and its use in surgical cases, and he reported five cases displaying its action. His series include a case of herniotomy, one of salpingitis with tympanites, an appendectomy, and two cases of typhoid fever.

Arndt (Zentralbl. f. Gyn. 1904-273) says he has successfully used the drug in Breslau and in Posen since 1900, and independently of Van Noorden's suggestion. He says they have used the medicament repeatedly and successfully during the last three years, and in his present article he records the details of five cases.

Vogel (Deutsch. Zeitschr. f. Chirurg. Vol. 63-355), also about three years ago made an extended study of intestinal paralysis, and at that time suggested the use of physostigmin. He has since had frequent opportunity of observing its remarkably beneficial action, and since inaugurating its use has not seen a case of post operative ileus.

Packard (Philada. Med. Jr. 1902, May 24) published some interesting cases and recorded his favorable experiences with the drug. His article contains some valuable historical references of the developing use of the drug.

Since then Craig (Amer. Jr. Obs. 1904-449) has taken up the subject, and has published two articles which have apparently done much to attract the attention of abdominal surgeons.

In 1886 Bauer (Zentralbl. f. Med. Wissenschaft. 1886-577) wrote about the Calabar bean, and at that time called attention to its pronounced and indeed selective action upon the intestines of cats, and this effect was produced irrespective of whether the drug was introduced into the body through the blood or by the mouth. His experiments were conducted with a one-fortieth solution in glycerin. This action upon the bowels overshadows its action upon other organs. It seems to attack the bowel muscle and the contained ganglia. Its action is peripheral, more so even than muscarin. Pal (quoted by Moszkowicz) says that eserin acts upon the same localities affected by curare, and may be regarded as its antagonist. Others have shown that simultaneously with intestinal contraction there is a contraction of the intestinal vessels from irritation of their muscular tissue. Blood pressure in general is increased.

Eserin has found its most extensive application in ophthalmic practice for the purpose of contracting the pupil. In this respect also it is the antidote of atropin. The physiological action in general of eserin cannot be given here, but should be closely studied, for it is a powerful drug. It might, however, be mentioned that besides its contractile effect upon unstriped muscular fibre as seen in the eye, and especially in the gastro-intestinal tract, it slows the action of the heart, and increases arterial tension.

All writers who have used eserin after abdominal section speak of it in the highest terms, and quite a large number of cases have already been reported exemplifying its action. It should perhaps be mentioned that this good effect is not claimed for it when the condition is due to actual sepsis. It has usually been administered in the form of the salicylate in hypodermic doses of 1-60 to 1-40 of a grain. This dose may be repeated, but is usually unnecessary since its action is generally apparent within an hour. In a number of the reported cases the drug was given on the day following the operation on the appearance of meteorism, and particularly after the failure to obtain relief from cathartics and high enemata. Vogel (Zentralbl. f. Gyn. 1904-700) calls attention to the fact that physostigmin should be a prophylactic against ileus and advocates its use immediately after the operation. Craig speaks favorably of its administration during the operation so that its action may anticipate the depressing effects of the operation. In his second article Craig (Amer. Jr. Obs., 1904-350) also speaks of administering the drug combined with the cathartic, thus: Aloin, gr. 1-5; Extr. Belladonna, gr. 1-8; Strychnia Sulph., gr. 1-60, and Eserine Salicylate, gr. 1-100. He begins on the day succeeding the operation and administers a tablet each night.

Personally I have witnessed the action of eserin in two cases of hysteromyomectomy, in which calomel in divided doses followed by a saline had failed. This was supplemented by enemata, simple and compound, and repeated high enemata, but without success. The patients then beginning to show the usual dreaded symptoms of restlessness, meteorism and vomiting, Eserin Salicylate, 1-40 of a grain hypodermically administered, was followed by complete relief in the discharge of flatus and stool in less than one hour. On the whole this use of eserin appears to be the most valuable recent contribution to the successful after treatment of abdominal section cases.

DISCUSSION.

Dr. C. P. Seip: This paper opens up a very interesting subject and one that demands careful consideration. During an experience of over one-third of a century of surgical work I have had a number of cases that were very annoying, and years ago when we would get a case that had meteorism the first idea suggested to our minds was that we were probably having a peritonitis, and that is a very serious complication. Formerly in nearly all these cases the first thing that suggested itself after making the usual efforts to ameliorate this condition of meteorism was the use of the rectal tube. That will sometimes give you a little relief, but it does not affect the bowels that are paralyzed. You never can get permanent relief from it. Any little gas that may develop or accumulate in the lower gut can be relieved by the rectal tube, but the meteorism is generally found in the small intestine. It is not due to impaction of fæces; it is due to a paralytic condition. If you have impacted fæces a simple or compound high enema may do good. If the bowels are paralyzed cathartics will not relieve. We learned years ago that the use of atropine sulphate was good in obstruction of the bowels. I know I read of one case where a man gave one-tenth of a grain. It is strange that in this condition of the bowel they used midriatics and yet they have an effect on the muscular fibers of the bowels as well as on those of the eye. The remedy is entirely new to me. I do not know that I ever heard of it before or read of it, but I hail the information with joy because I have had many a sleepless hour in some of my operative cases that I could not relieve until I had exhausted almost everything else, and I do not know really whether it was the treatment I had employed or whether it was simply a restoration of the nervous function of the bowels that brought relief. The paper certainly dealt with the subject very clearly and gave us all the information, I believe, that can be had up to date, and I believe every physician who has ever had any trouble or treated any of these cases of meteorism will hail with joy a remedy that promises the relief this remedy does.

Dr. J. E. James: I would like to thank Dr. Gramm for calling our attention to this remedy. If it has anything like the value that the literature he has gathered together and his own experience indicate, it is a very valuable addition to our resources. There is no enemy I meet I so dread as intestinal paralysis. I have been pretty successful in handling it. I never wait for trouble. I do not use

the salines but calomel administered within twenty hours after my operations. I do not give it in homœopathic doses. I give one-tenth of a grain or one-eighth of a grain every hour, and follow it with a cathartic. Nearly ninety-nine out of every hundred respond, but the hundredth one gives me as much trouble as the other ninety-nine. If eserine will accomplish the result it is a most valuable contribution, and on behalf of the Society and all practitioners I thank Dr. Gramm for calling our attention to it.

Dr. T. L. Chase: I was very much interested in this paper by Dr. Gramm. He has brought to our notice the use of eserine in doses of one-fortieth of a grain hypodermically to control the meteorism that takes place after some abdominal operations, and which is so often followed by a fatal termination, fortunately in few cases. Some of us were discussing this subject before coming into the meeting, and one of the members said, "What is the well recognized ordinary treatment of such cases?" This remedy that Dr. Gramm has brought to our notice brings up the subject for discussion in a way so that we can arrive at a treatment that is generally applicable. It has heretofore lacked uniformity for the reason that some of us have found a certain treatment efficacious in some cases and not in others. Other men employ other methods of treatment. The one that impressed me, and that I carried out, was that brought out by Dr. George B. Roberts, of New York. He wrote a paper citing some thirty odd cases, wherein he said that patients generally did better if they were not purged prior to abdominal section. That is, if the patient had the ordinary daily movement of the bowels that patients usually have, those cases should not be purged. They should not be given a calomel purge, or a saline or one of the vegetable compounds. In other words, that those cases did better without catharsis, that they were less likely to be followed by post-operative intestinal troubles if they did not receive the preparatory treatment that had been in vogue for a number of years. After that time some of us followed the advice he laid down, and that was if a case came to us that was not one of chronic constipation, that patient was simply prepared abdominally with antiseptic applications to the abdomen, and as far as moving the bowels was concerned, they were let alone, excepting that the morning of the day of the operation the patient was given a saline enema and the bowels were moved naturally. Then if the abdomen was opened and it was necessary to handle the intestines, as it is in many cases of certain inflammatory diseases of the pelvic

region, they afterwards did not have the complications that those would where they were purged. I followed that out, and also after abdominal section I did not follow any routine treatment. That is, they were not given calomel purges, they were not given salines, and if the patients were comfortable and did not have any distention of the abdomen they were simply let alone, perhaps for twenty-four or forty-eight hours if necessary, and then they were given a saline enema, only a pint, so as not to distend the bowel, and if the bowel moved from that they were not given one again until the expiration of another forty-eight hours. In other cases, if they had abdominal distention, they were given an enema, and if there was not any result and the abdominal distention increased, the enema was given in larger quantity, a compound enema, magnesia phosphate, etc. The doctor has given us two cases where he saw a positive result and his patient was relieved after the injection of eserin.

Dr. D. B. James: We all seem to have a routine way of treating our cases. We have found no cause at the hospital to change the routine we have gone through for years. I, fortunately, was tutored by my uncle, and I carried out the routine that he suggested and carried out at that time. Since I have seen an article on Eserine some few months ago I have not had an opportunity of using it. We start in there by purging with calomel, starting about 3 o'clock in the morning following the operation, and following an hour after with an enema. If there is no result from the enema it is repeated an hour later. This is done by placing the patient on the left side and giving a soap and water enema high up. Our results have been so universally good that we have seen no cause to change. I have not had an opportunity to try anything else. Our cases have simply gone right through on that routine treatment.

Dr. T. J. Gramm: The fact of the matter is until now there has been no routine treatment for the management of the bowels after abdominal section. This is a new subject. Doubtless the older members of the profession present here can very distinctly recall the fact that they saw no abdominal section when they were studying medicine. I only graduated in 1881, and until that time there had been no abdominal section in the college where I graduated. Consequently it has been within our professional lifetime that this entire subject has started, and when abdominal section began first attracting my attention the treatment was to give the patient a wineglass full of the liquor of citrate of magnesia, repeated hourly until the bowels

were moved. For many years a man was taking a tremendous risk of being severely criticised if he did anything different than was the accepted custom in abdominal surgery at that time. If you will recall the rising of the abdominal operation you may know it was looked upon as a tremendous surgical intervention. Consequently we have always feared to get away from any routine treatment, but lately there have been some changes, and some one has suggested that because citrate of magnesia given in those doses in some instances produced meteorism; therefore they would use another cathartic, and so the next treatment I know of was to administer calomel. About that time it was discovered that one did not have to give a large dose of calomel, but that one could give calomel in divided doses, divided into one-tenth of a grain, repeated hourly and followed by a citrate of magnesia. That has been in vogue for a long time. Then I distinctly recollect somewhere about eight or nine years ago that some abdominal surgeons did not use this method, but they modified it in this way. They divided the grain into four parts and combined with it one-quarter of a grain of aloin and administered four doses and followed it by the citrate of magnesia. If you will read any of the text books on abdominal surgery I think I am safe in saying you will probably find what at least has been my experience, that operators abroad are not at all concerned with the opening of the bowels upon a certain day. I am waiting anxiously to really know whether that is a fact and how they get along with their cases. For example, the author of "Bright's Text Book of Gynæcology," a splendid publication, speaks of "some time after the operation, somewhere in that week, the bowels are to be moved," and he speaks of giving the old German remedy that all Dutch babies are fed on, fennel seed tea. In the light of our dread of this condition, and every operator has seen it—if he has not, there is something in store for him that he will never forget as long as he lives—that is, death from paralysis of the bowels—in the light of this horrible condition, I would like to know how we are going to explain the fact that so many men abroad are not concerned about moving the bowels, whereas in America we are positively scared until they move. I know I am. I do not know whether anybody else is. I have felt great confidence in the administration of one-tenth of a grain of calomel followed by a carthartic, but since I have had the last case come so near dying I will never again use that treatment. I know there must be something about it that is absolutely wrong.

It would have been a source of great satisfaction to me could I have listened to a discussion on the various methods in vogue among our operators. Hereafter I propose to use a treatment that I have used several times successfully, and that is to give calomel in a larger dose, to get its effect, and at the same time have an effect upon the lower bowel as will be produced by calomel.

RETRO-DISPLACEMENT OF THE UTERUS.

N. F. LANE, M. D., PHILADELPHIA.

In taking this subject for discussion I feel sure that it will be interesting to all who do general medical work as well as those who do special work along this line.

The causes of retro-displacements are varied, and may roughly be stated as follows: Falls or sudden jars, lacerated or weakened pelvic floor, sub-involution, inflammatory diseases of the uterus and appendages, and under some circumstances tight lacing.

Many cases are congenital, caused perhaps by an arrest in development of the posterior portion of the uterus at its junction with the cervix.

The most common cause is probably a miscarriage or labor at term.

If a woman gets up from a labor or miscariage too soon while the uterus and pelvic tissues are in a state of sub-involution she is likely to cause a retro-displacement. If the cervix becomes displaced downward and outward as may occur after a confinement, especially if the pelvic floor is lacerated or weakened, the conditions are favorable for a retroversion.

The symptoms usual to this disease are backache, bearing down, headache, menorrhagia, metrorrhagia, leucorrhœa, rectal tenesmus, frequent urination, ovarian pains, especially if the uterus be inclined to either lateral region, and sometimes if there is a tender appendix and the uterus is inclined to the right side, it may aggravate the appendicular pain.

Right here I would like to urge upon all operators the advisability of examining the appendix in all cases, especially if the pain be right-sided. A failure to do this may result in disappointment, the pain having been due to the appendix perhaps, more than displacement.

The bladder symptoms are due to a dragging upon the neck of that organ, and if the prolapse is marked it may be impossible for the patient to completely empty the bladder, this resulting in the usual tenesmus.

Very often the displacement will cause no symptoms whatever, and such uteri are usually best let alone.

The treatment of a retro-displacement may be medicinal, mechanical, surgical or a combination of these measures.

I consider medical treatment almost always in order except in those cases where a correction of the deformity results in a cessation of all symptoms.

There are usually some conditions present like a constipation, for instance, which aggravates the suffering of the patient and may be relieved by medicines.

Here, as elsewhere, in the realm of medicine is no panacea. The patient must be studied apart from the retro-displacement and the prescription made according to the symptoms and conditions found to be present.

To treat the case intelligently and successfully we must first make a correct diagnosis, not only of the position of the uterus, but of all pathological conditions present in the pelvis.

I cannot agree with those who favor operative measures in all cases, discarding entirely local treatment and the pessary. I am sure that many patients can be made comfortable with entire relief of symptoms by the use of a properly fitting pessary.

The cases in which pessaries are indicated are simple retroversions or flexions with no disease of the adnexa, and which can be thoroughly replaced and retained there by a pessary of proper size. I say proper size advisedly, for the reason that a retroverted uterus can, and sometimes is kept in normal position by a pessary even when there are some adhesions; but this requires a pessary too large for the size of the vagina, and while it may retain the uterus, it stretches and erodes the vagina, thus making the patient worse eventually.

The patient should not, from any sensation experienced, be aware of the presence of the pessary, but should have relief from the symptoms produced by the displacement.

A pessary placed while the uterus is still dislocated or in the presence of inflammatory conditions can accomplish no good; but on the other hand it can accomplish a great deal of harm. I be-

lieve the fitting of a pessary should not ordinarily be attempted by one who only occasionally treats such cases. Far better will it be for all concerned when the physician refuses to use an instrument of this kind when he does not thoroughly understand the nature of the case he is treating.

I trust the Society will pardon me if I go a little into detail in this matter, as I feel that it is in detail work more than in general principles that we make failures.

To replace a uterus, place the patient in the dorsal position, and with the finger of one hand back of the cervix and beneath the fundus, raise as high as possible, then place the same finger in front of the cervix and press it back into or beyond its normal position, while at the same time with the other hand on the abdomen get the fingers back of the fundus and draw it forward. This method is usually successful even in moderately stout individuals.

Sometimes a preliminary lifting of the fundus with the patient in the knee-chest or Sims position will help, but never trust to these postures alone, always finish the operation with the patient in the dorsal position, this being the only practical way to determine that the uterus is in its proper place.

It may be justifiable in certain *rare* cases to have recourse to the use of a sound.

Any instrumentation within the uterine cavity should, of course, be strictly aseptic, as much care being taken for the introduction of a sound as for a dilatation.

If it be a recent case and only a temporary support is needed a tampon of cotton or wool may be placed in front of the cervix and allowed to remain twenty-four to thirty-six hours. If a more permanent support is necesasry a Smith hard rubber retroversion pessary will usually answer admirably.

After the instrument is in position, the cervix should lie within the posterior portion of the ring while the anterior bar should be just beneath and posterior to the pubic arch. The vagina should not be upon the stretch, and one should be able to carry the finger freely around the lateral bars of the pessary.

For the retention of the pessary a moderately firm perineum is necessary, otherwise the instrument will fall so low in the vagina as to become useless or annoying to the patient. The smallest ring that will do the work required should be used.

The action of the pessary is precisely the same as stated in regard to the tampon; both hold the cervix back.

We might say, perhaps, that the tampon pushes the cervix back while the pessary pulls it back.

It seems hardly necessary to state that the pessary does not hold the fundus up by pressure upon its posterior surface, but only through its action upon the cervix.

Various authors have various opinions as to how the pessary does its work: but I think most of us will agree that the posterior bar carries the posterior vaginal wall upward and backward, and this being atached to the cervix keeps *it* upward and backward, thus forcing the fundus to take its normal position forward.

As far as my observation goes very few practical gynæcologists condemn the pessary entirely, and I think that if the following rules are observed and a proper degree of skill exercised we shall find the pessary of great assistance:

1. It is to be used only in simple, uncomplicated displacements.
2. Use the smallest instrument that will do the work required.
3. Never persist in its use when it causes the patient pain.
4. Keep the patient under occasional observation, even after the pessary is properly fitted.
5. Allow the patient to go without it for awhile, occasionally, in order to ascertain if the uterus will stay in position without the instrument, and to prevent erosions of the vagina.
6. Keep the pessary clean by the use of antiseptic douches, their frequency being determined by the amount of discharge present.

Of the operative measures, probably the stitching of the fundus to the lower angle of the abdominal incision is the most reliable.

If the patient is unlikely to become pregnant, and especially if the uterus is large and heavy, I prefer a suspension, feeling that it is the more secure of the various operatins. I have not been able to follow many cases through subsequent pregnancies, but as far as I know there has been no difficulty in the delivery, although some trouble has been reported by other observers. The drawback to this operation, excluding pregnancy, is the formation of an artificial ligament which *may possibly* cause bowel obstruction. This ligament is free in the abdominal cavity, not being external to the peritoneum as are the natural ligaments.

Where the patient is a young woman likely to bear children, I prefer to restore the uterus by shortening the round ligaments. This

can be accomplished in various ways. I usually double the round ligament upon itself, stitching it with chromicized catgut, putting as little strain as possible upon the weak distal or pelvic end of the ligament. This operation should place the uterus in its normal position and give it good support.

By another method the round ligament can be grasped with a pair of forceps, first passing them through the broad ligament from its posterior surface, drawing the ligament behind the uterus and stitching it to its posterior surface, thus placing the uterus in a sort of sling.

Montgomery and Noble have each originated and described operations upon the round ligaments which utilize their thick uterine end. This should be an improvement upon the older methods.

The Alexander operation is known to all, but its use is limited to simple, uncomplicated retro-displacements. It has the advantage of being an extra-peritoneal operation.

With the other operations the abdomen is opened and all complications, such as adhesions, inflammatory disease or tumors, can be treated.

There is one condition that sometimes occurs with a retro-displacement that is seldom mentioned. I refer to a short anterior vaginal wall which draws the cervix forward. This of itself may be the cause of a retro-displacement, and it surely will prevent a cure, even with some of the operative measures, and with the pessary it is impossible to benefit the patient. This only further emphasizes the fact that in order to cure, the cervix must be kept posterior.

This condition can usually be overcome by making a transverse incision in front of the cervix, separating slightly the uterus from the bladder and converting the incision into a longitudinal one.

I do not want to close this subject without calling attention to the opportunity for a cure that is offered after a confinement. If it be a simple case with a fairly good pelvic floor, the chances of success at this time are good. If during involution the uterus is maintained in its normal position it is likely to stay there permanently. The use of a pessary may be necessary for some time, as involution of the uterus and pelvic tissues are not complete for some weeks.

Dunning has made some investigations and his results are summed up in "Progressive Medicine" of 1904. As the subject is treated so concisely I will quote his summary in closing:

1. "Simple, uncomplicated retroversion of the uterus gives rise to

but few symptoms, the chief of which are backache and bearing down pain. Painful menstruation occurred in 37 per cent. of the cases. Uncomplicated cases constituted but 7.01 per cent. of the entire number under observation (112). Five uncomplicated cases were treated by the non-operative plan; 3 were cured and 2 were greatly relieved.

2. "The severity of the symptoms and the prospect of a cure depend largely upon the number and character of the complications. Prolapsed and chronically inflamed ovaries, endometritis and laceration of the cervix uteri constitute the most common and serious complications. The most common symptom is pain, occurring in 74 per cent. of cases. This includes painful menstruation, 36 per cent.; backache, 35 per cent. In but 21 per cent. of the cases was there habitual constipation. Various degrees of invalidism existed in all complicated cases.

3. "In the treatment of the simpler and less complicated cases the non-operative method yields satisfactory results. Recent cases, especially those following labor, improved rapidly under this form of treatment.

4. "Displacements of long duration, accompanied by the more serious complications, are not cured by this method, and the benefits resulting are scarcely sufficient to justify the effort.

5. "Operative methods in the severest forms of displacements and complication are attended by a large percentage of cures, and should be employed in preference to all other means. So large a percentage of these csases have multiple complications that two or more operations may occur in each case.

6. "The danger attending the operative method of treatment is very small. In the 21 cases reported there was no mortality."

By non-operative treatment Dunning means the use of a suitable posture, tampons, pessaries, topical applications and internal medicine.

DISCUSSION.

Dr. J. E. James: I have nothing to say on this paper but, as a good Methodist, amen. I do not know how much of it the doctor got from my teaching. He has been associated with me a good while, and I have nothing to add to what Dr. Lane has given us except to say that I am glad he has called our attention to it. It seems like a trite subject, but our experience of cases sent to us shows that there

are many physicians throughout the country who do not seem to understand that the keynote to treatment is to know what is the matter, to make a diagnosis of the exact position of the uterus, and then remedy it. Lots of our operative cases come to us simply for treatment of a simple retroflexion or retroversion under the supposition that it was something else. Heroic treatment was applied to a simple reduction of a dislocated uterus. If we can learn the exact position and then know when it is dislocated, and if, as the doctor says, there are no inflammatory conditions to interfere, reduce the dislocation of the uterus and keep it there, the whole thing is solved.

Dr. G. B. Roberts: I think that paper is a very excellent one. There are two or three points which call up some questions that I think it is worth while for us to consider. The doctor speaks of reducing the displacement by putting the patient in a dorsal position, and emphasizes that finally we should assure ourselves that it is reduced by an examination in a dorsal position. I agree with that quite thoroughly, but I find personally in many cases I am unable to accomplish a reduction of a retro-displaced uterus. I mean in cases where there are no adhesions a simple retroversion of the uterus many times fails of reduction with the patient in a dorsal position. Not only that, but many times it fails of reduction with the patient in a knee-chest position and the fingers in the vagina making pressure upon the uterus. In most of these cases, however, we are able to get replacement by putting forceps on the cervix and drawing it down at the same time we make pressure with the patient in the knee-chest position. I believe fully thirty per cent. of the cases I see and am able to reduce in that way, I am absolutely unable to reduce with the patient on the back. Perhaps I have been unfortunate. The doctor emphasizes again the aseptic method of introducing the sound. Many a man starts in practice and gets into the habit of introducing the sound without proper aseptic care, and runs along perhaps for years doing this little operation, or perhaps using electricity, without thorough aseptic precautions, and he draws the conclusion that it is practically safe to do so. The time will come in everyone of those cases if the man practices long enough, when he will be the cause of the death of a patient by that means. The absolute necessity of using aseptic methods every time an instrument is introduced into the uterus cannot be emphasized too frequently in medical societies. The doctor mentioned, among the causes of retroversion, falls. That is simply a statement contained in all of the text books, and it seems

quite logical that a fall should produce retroversion, but when you take into consideration the difficulty that the surgeon or gynæcologist has in actually producing retroversion for experimental purposes when the abdomen is opened its correctness becomes doubtful. For instance, when you open the abdomen for other conditions in the median line you take the anteverted uterus and undertake to turn it backward, and you will appreciate that it is absolutely impossible to produce retroversion of a healthy uterus by a fall. That is an important matter. I have noticed it as being important in legal cases. It is quite the custom for everyone who falls off a car, or gets pushed off or run over by a car, particularly every woman, to sue the railroad company and claim damage to the pelvic organs, and in a large number of cases these damages are for retroversion, among other things. The text books are full of the statement that retroversion is the result of traumatism. I believe it is open to very grave question. I do not believe a man is justified in going upon the stand and swearing it is possible to produce retroversion by traumatism. Retroversion produced by traumatism presupposes disease in almost every case; I believe that disease usually being enlargement of the parts, due to some infected condition as a rule. I believe traumatism or a fall can hardly produce retroversion of itself. When the doctor spoke of shortening the ligaments he spoke of not utilizing the weak pelvic end, and I do not understand quite what he meant. Do you utilize the uterine end or the abdominal end?

Dr. Lane: I utilize the whole ligament. My idea was to be careful in approaching the pelvic end.

Dr. Roberts: In doing your Alexander operation if you have the misfortune to tear the round ligament off, as is not an infrequent thing, that tear occurs within the canal. It is the uterine end of the ligament that is strong, and it is the pelvic attachment of the ligament that is weak, and I believe from a logical point of view the operations which depend upon shortening the round ligament, leaving it depending upon its attachment to the pubis or within the ring, are unsuccessful operations as a rule. The uterine end of the ligament, however, is very strong. Once you pull the ligament down through the canal and get to the thick uterine portion, it will sustain a pull of a number of pounds. The other operations, like Dudley's operation, etc., I believe ultimately result in failure.

Dr. I. W. Heysinger: I would like to make one statement with reference to the remarks of Dr. Roberts. He said he did not think

traumatism, except in very rare cases, would produce retroversion of the uterus. I had a case of a colored woman to attend in a house in Philadelphia, in which she undertook to put a window shade up, standing on a round table. The table upset and she came down on the floor on her buttocks with a tremendous shock. She was a woman of about thirty-five. It turned her uterus upside down. I was attending the family and heard her yelling upstairs for a day or two. Dr. Charles M. Thomas was at this time engaged with me in a very serious operation on another member of the family, and while he was consoling the woman after the operation I went up to see Hannah. The lady of the house said, "Won't you go up and see Hannah? She is making an awful fuss." She was. When I got up there and found the condition of affairs she was in a most lamentable condition. She gave a history of the case, which was just as I told you. It had occurred two or three days before. I said, "I will reduce that dislocation." I got her upon the edge of the bed. There were no applications handy. I got her in a sort of knee-chest position, and put one hand up the rectum and the other up the vagina. She prayed, swore, and used various expressions. I said, "I will get it yet." She said, "No, you won't." She kept edging away on the other side of the bed, and finally came down between the bed and the wall, and I had her then. The lady of the house said, "I will go down and ask Dr. Thomas to come up." He came up. He said, "What are you doing?" I said, "I am retroverting the uterus." I had her in the head and foot position, and I got that uterus pushed up, and when it went up it snapped or cracked or something or other. She never had any trouble afterward. I do not know whether these cases are rare, but that case was remarkable, and it was a very brilliant operation.

Dr. T. J. Gramm: This question of the retroverted uterus is one upon which the doctor has not dwelt, although Professor Roberts has referred to it. The fact is the uterus when it falls backward and remains there for a certain short length of time, is very apt to become lodged within the curve of the sacrum, and when you make pressure upon that uterus by any of the means mentioned by the reader of the paper you will encounter a difficulty which is partially overcome by placing the patient in the knee-chest position and also partially overcome by placing her in the dorsal position. The fact of the matter is that the way this could be successfully reduced is by making traction upon the cervix. Dr. Roberts referred to that. Many of you

operators have doubtless had in your hands the so-called corrugated tenaculum, the tenaculum which has a exaggerated curve upon the front. It has likewise a curve upon its blunt end, which they say is very handy in tracheotomy, and so forth, but I doubt whether the majority of men who have found admirable use for that tenaculum really known how it came to be devised. The fact is that it was devised just exactly for these cases. You probably may have wondered why the corrugations were there. They are there for the purpose of being held like when you play a violin. They are held by your fingers. As you make traction with one hand downward on this curved end that points towards you, at the same time your fingers that would be playing the violin are holding the corrugations, preventing the uterus from going upward. At the same time your finger, being extended, is reaching up back of the uterus, if necessary, and there you have a rationale of the use of the corrugated tenaculum. I am very much surprised that Dr. Lane has not mentioned that fact in his paper, because he and I worked up that subject a good many years ago when we were engaged in the gynæcological department of the dispensary. That is an admirable way of replacing the uterus. The most persistent and difficult cases of retroversion to cure are those which occur in young girls who have had a fall before or shortly after the time of puberty. I have in my care two young women, one of whom fell with a hammock about eighteen inches from the floor. She fell upon the entire length of her back. That girl was treated about 10 or 12 years for nervous prostration, spine disease, and all sorts of nervous trouble. Examination of her internal organs revealed the fact that she had a retro-displaced uterus, in fact, a partial flexion, not absolutely so, however. During the time that this was allowed to remain so there had been a shortening of the ligaments. I mean to say certain adhesions had formed upon one side and the other ligament had been overstretched. The other case is similar. It is in such cases where the persistent use of a pessary may bring about a cure, provided, of course, there be no adhesions that prove insurmountable to the accomplishment of this result. I very fully agree that as a rule retroversion is not easily produced, in the normal uterus, but it may be produced, as I know of another case which it is not necessary to outline, in which this condition was produced in a young girl from a fall, and retroversion was the result which persisted for many years.

Dr. T. L. Chase: I think it is a good thing that every few years this subject should be brought up, because it is one that general

practitioners as well as gynæcologists are frequently called upon to treat, and very diverse lines of treatment are laid out by various gynæcologists, whether medical or operative, showing that there is no one line of treatment we can follow. For instance, if a retro-displacement is presented in a young woman who is apt to bear children, if the uterus is not very heavy, is a normal uterus in size, has no adhesions, no complications in other words, and that knowledge can only be obtained in most cases by an examination under an anæsthetic, then that case is benefited first and best with a pessary if the uterus can be properly replaced, and the replacement should never be done by putting a sound inside of the uterus. In the first place, there is the danger of sepsis that one of the doctors has mentioned and on the other hand traumatism, and we produce more or less traumatism when we put a sound inside of the uterus. We try to assist the uterus into position with the sound acting as a lever when we have hold of the long end, so that if it cannot be replaced bi-manually then it is not a case for treatment by a pessary. There that subject ends, and the treatment should be considered from an operative standpoint. If the condition occurs in a young woman, and we replace the uterus, but it recurs, then the Alexander operation is the preferable operation, because it can be done without opening the abdomen. There is practically no mortality rate, and the results are as good as by any other operative procedure. If there is a question as to the possiblity of some complication within the abdomen, then the abdomen should be opened. If the uterus can be brought into position by shortening the round ligaments, and perhaps also by putting the broad ligament on a stretch by a few sutures in the pelvic ligament, stretching it latterly as well as anteriorly, then we keep the uterus in position. Of course, if there are complications and the woman is nearing the menopause, ventro-fixation is the thing to consider.

Dr. N. F. Lane: In regard to pulling down the cervix, I am very sorry I missed that. I do not know how it happened, because that occassionally is a very necessary adjunct, but only in rare cases do I have to do that, and probably most of those cases that are replaced by the use of a sound could be just as readily replaced by properly pulling down of the cervix. I do not suppose that falls very often cause retroversion in a normal uterus, but if the uterus is heavy or the ligaments are weak, a fall will cause retroversion. I have seen that repeatedly.

REPORT OF THE

SECTION OF PATHOLOGY AND PATHOLOGICAL ANATOMY.

The Parasitic Origin of Carcinoma, by T. J. Gramm, M. D.
Locomotor Ataxia; a Case, by W. F. Baker, M. D.
Early Operation in Appendicitis From a Pathological Standpoint, by J. E. Belville, M. D.
An Unusual Case of Diphtheria; Nasal Intubation; Recovery, by H. M. Gay, M. D., and C. S. Raue, M. D.
Diacetic Acid in Diabetes, by J. C. Guernsey, M. D.
Advanced Biology With Relation to Homœopathic Principles, by I. W. Heysinger, M. D.
The Diagnostic Value of the Normal Constituents of the Urine, by Walter W. Selbert, M. D.
The Pathology of the Puerperium, by R. E. Tomlin, M. D.
A Case of Appendicitis in a Large Inguinal Hernia, by A. W. Yale, M. D.

THE PARASITIC ORIGIN OF CARCINOMA.

THEODORE J. GRAMM, M. D., PHILADELPHIA.

Special attention has of late years been directed to carcinoma in its various forms. Closer study has given us a fairly accurate knowledge of its peculiar features and clinical course. That this attention was well merited is demonstrated by the amazing increase in the frequency with which carcinoma affects all organs of the body. This increased frequency is believed to be real, after making due allowance for greater accuracy in diagnosis, and has become a matter for national concern, as Roger Williams says. He has shown (Abs. Amer. J. Obs. XXXIV-598) that in England there were in 1896 four times as many deaths from cancer as from typhoid fever. During the last fifty years deaths from tuberculosis have diminished by more than one-half, while those from carcinoma have more than quadrupled. His tables show that in the year 1840 the mortality from carcinoma in proportion to the total death rate was 1 to 129. Since then a regular progressive increase is noted, so that in 1890 it was 1 to 29;

in 1891, 1 to 27; in 1892, 1 to 27; in 1893, 1 to 23. The latest ascertained cancer death rate is the highest on record, while that from tuberculosis is the lowest. In Germany, Finkelnberg (Kroemer, Arch. f. Gyn. bd. 65-684) collected data from 1881 to 1890, and Maeder from 1891 to 1896, and both tables show a progressive increase of carcinoma, while the mortality from tuberculosis regularly improved. Of the increase of cancer in America Roswell Park has said (Pract., 1899, Apr.) that if for the next ten years the relative death rates are maintained, we shall find that in 1909 there will be more deaths in New York State from cancer than from consumption, small-pox and typhoid fever. Also in some statistics published by Massey (Amer. Jr. Med. Sci., Feb., 1900) it appears that in seven large cities of the United States cancer has increased two-fold in twenty-eight years. The greatest increase has occurred in San Francisco, being six-fold in thirty-two years. The city of Boston stands next in order, where the increase has been three-fold in twenty-four years. If the proportionate increase is maintained until the year 1910 there will be an average of 80 deaths in each of the large cities to every 100,000 living persons. In 1898 there were 664 deaths per 1,000,000 inhabitants, according to which there must have been 49,800 deaths from cancer in the United States, and in 1900 there must have been 100,000 victims of the disease. Similar conditions have been found to exist in France, but a repetition of such figures need not further delay us.

This increased frequency of carcinoma has attracted much attention abroad, and in view of the malignancy of the disease, its infrequent curability, and the bad results despite highly developed operative technique, have for the present suggested a closer attention to early diagnosis and prophylaxis. This thought has led Winter (Centralbl. of Gyn., 1904-441) to suggest a widespread campaign against cancer, which he proposes to carry out, and indeed has inaugurated, by circular letters to physicians and midwives, and by popular lectures and articles in the lay press, in all of which, besides pointing out the early symptoms, he has urgently insisted upon the necessity for internal examination in all cases of gynecic disease which do not readily respond to therapeutic means instituted for conditions believed to exist. In this attempt to limit carcinoma by recognizing it in its early stages and instituting proper treatment he has been ably seconded by a number of well-known physicians, and already the results of his endeavors appear in the reports of cases recognized

quite early in consequence of popular attention being called to the subject.

Now the study of carcinoma has placed the recognition of its clinical manifestations and its early diagnosis within the reach of most physicians; but the determination of the essential cause of carcinoma, in a manner satisfactory to the scientific demands of today, has baffled the skill of the most expert. Innumerable attempts have been made to solve this problem, and in spite of investigations, brilliant in their conception and conducted with splendid perseverance, final results have not as yet been produced which are able to withstand the searching criticism of modern science. Clinical observations heretofore have suggested theories as a working basis, and some of them have held sway for many years. Many pathologists adhere to the theory first proposed by Tiersch, and later by Waldeyer, that this neoplasm takes its origin from the epithelium and glands, which are cellular derivatives of the outer and inner germinal layers. The decisive factor determining this abundant proliferation is not stated. It was assumed that atypical destructive proliferation of epithelium took place, which further developed in the stroma, irritated by inflammation, and grew unrestrainedly beyond its original confines. In 1875 Cohnheim proposed the view that carcinoma originated from epithelium displaced or nipped off during embryonic development and included in connective tissue, and later from some acquired activity developed a cancer. Cullen says (Cancer of the uterus, p. 652) this theory had been proposed by Durante a year previous to Cohnheim's publication. The localities where such displacement was most likely to occur are those where the several blastodermic layers come into contact with others, as at the orifices of individual organs. This theory was only applicable to a limited number of cases of carcinoma, and it remained problematic why such epithelial inclusion in some instances led to the development of carcinoma, while in many others no such malignant activity was acquired by them. Cullen has lately examined a large number of specimens in order to discover such epithelial enclosures, and his attempts have been uniformly negative. He concludes that he has never found the slightest evidence in support of the theory of an embryonic origin. Ribbert proposed to explain the genesis of carcinoma by maintaining that epithelial cells became separated in some manner from their normal site and relations. No cancer would arise from primary active proliferation and anaplasia. The displacement of epithelium from

its normal relations may be brought about during embryonic development as suggested by Cohnheim, by traumatism, but especially by primary active proliferation of the connective tissue lying beneath the epithelial layer. The connective tissue cells were said to grow into the epithelial layer of the surface of glands, and thereby brought about a separation of certain epithelial masses which thereafter multiplied in the stroma and grew atypically. This theory has been subjected to debate with varying results, but a number of investigations instituted to re-examine the question have however shown that the connective tissue in beginning carcinoma is inactive, so that there can be no thought of its having a dominating participation in the genesis of cancer. Critical analysis of the several theories thus far proposed to explain the genesis of cancer has shown that they are not universally applicable. The fact remains that we are still waiting to obtain the clue which shall lead to a revelation of the mystery of why these epithelial cells take on this astonishing proliferative activity, which is so fatally associated with local recurrence after removal, metastases in distant organs, and the other characteristics of malignancy.

The study of bacteriology which has proven to be such a fruitful source of information in pathogenesis, so that it has established a new era in medical science, has been appealed to, and its methods have been invoked in an endeavor to solve the problem of the etiology of carcinoma. Even a cursory examination of the clinical course of cancer suggests the probability that such methods of research would yield the desired information, while if this disease be compared with other infectious diseases a remarkable parallelism is manifest. If, therefore, a specific micro-organism could be demonstrated to be constantly associated with carcinoma, so that it might be looked upon as bearing a causal relation, probably no one will deny that the genesis of carcinoma would be as easy of comprehension as that of other infectious diseases, as simple as are other works of Nature, when some accurate knowledge of them has brushed away much of their seeming mystery. A number of persistent attempts in bacteriological investigation met with apparent success, and a cancer bacillus was thought to have been discovered; but re-examination on the part of others showed that these results could not be confirmed, although micro-organisms have been abundantly demonstrated in cancer tissue, so that of late nothing is heard of a specific cancer bacillus, par-

ticularly since the fundamental difference between genuine tumor formation and inflammatory neoplasms was recognized.

But since the failure of these attempts to discover the causal relation of a micro-organism allied to those associated with other infectious diseases, and in view of the conviction widely entertained that a living organism with its spore formation would furnish an explanation of many of the clinical manifestations of carcinoma, and whose presence could supply the persistent irritation to the cells which would stimulate them to abundant proliferation, attention has been directed to other low forms of micro-organism life. That success might attend such inquiry was suggested by numerous analogies in diseases affecting man, among some of the lower animals, and particularly in plants. It is a not unprofitable undertaking to examine some of the older text books written before the acquisition of such facts as those just referred to, and observe how near the truth their authors reasoned and described, and yet how far removed from a satisfactory explanation; whereas an acquaintance with the agency of some of these elusive micro-organisms would have furnished the keynote according to which a work could be arranged in harmonious and satisfactory accord. It was the revelations of bacteriology after all that brought about the necessity for rewriting out text books, as is well known.

The low forms of animal life to which attention was directed are the monocellular group of protozoa, belonging to the very lowest in the animal scale. They are characterized by extreme simplicity of structure, the lowest forms consisting of single protoplasmic bodies, and the higher ones mere repetitions of one another, each capable of maintaining an independent existence. It is said that the lowest forms do not even possess a cell wall and contained nucleus, and consist only of particles of protoplasm, which, however, have the ability to perform the functions of digestion and reproduction as among higher animals. Some protozoa also exhibit several forms during their life history. Thus, there is a stage of encystment when the animal represents only a globular mass whose inner portion is faintly granular; a morula or mulberry stage, representing an incipient spore formation, and after the bursting of which the liberated individuals lead the life of amœba, and this is later followed by a flagellate stage. According to this the organism by no means presents the same appearance when seen at different periods of its existence. Some investigators have referred to the sporozoa, which

are protozoic animals characterized by their means of reproduction, which consists in a period of encystment followed by a breaking up of the protoplasm into a large number of spores. Belonging to the sporozoa are the coccidia, which have attracted considerable attention. They appear like minute ova, and their abiding place during their parasitic life is within the cells of their host. They form spores, falciform in shape, and have the power of motion and of penetrating cells. The coccidia have been found in intesinal epithelium and particularly in the liver of rabbits. Here they cause a disease which may be mistaken for tuberculosis. The disease often proves fatal, and may occur in an epidemic form. The coccidium oviform has been found in the livers of other vertebrates and in man. They gain access to the liver from the intestines by means of the bile ducts. This very general reference to some protozoa is sufficient to present some idea of the character of the forms of animal parasitic life, which have been thought to bear some relation to the etiology of cancer. Besides them others have been studied, but their description would not only be voluminous, but also not in accord with a general presentation of the subject, as the present paper only aspires to give.

The literature of this subject has within a very few years attained to very generous proportions. The supposed causal relation of parasites to cancer has also stimulated to closer study of their relations to diseases in animals and in plants, and this has added greatly to our accessible knowledge. Roswell Park has given an interesting historical resume of the literature. (Trans. Med. Soc., New York, 1893.) No attempt will be made at present to review this, though it would be profitable to do so; but since attention has long appeared to become centered upon the coccidium, a word in this connection is in place. Shattock and Ballance (Allbutt: Syst. Med., Vol. I.) have closely studied coccidia and have made ingenious attempts to cultivate them but without success. The reports of their work, both in culture experiments and their chemical investigations, are valuable contributions to the subject. It might be said in passing, that although they have failed to cultivate the protozoa, and although their chemical investigations were negative, yet throughout their writings is exhibited a tentative adherence to the probability of a parasitic origin of carcinoma.

Leopold has given much attention to the study of cancer. In association with his assistant, Rosenthal (Arch. f. Gyn., Bd. 51-104),

he studied the cells showing motion of the contents in human carcinoma and cell inclusion in living tissue, and from these studies, subsequently continued alone, he was repeatedly able to observe budding and binary division of cells. In his subsequent papers he described observations of fresh cancer material studied in the hanging drop during a period of two hundred days in a specially constructed microscope enclosed in a thermostat, and here again he was able to describe the budding of shining, transparent spheres, which strongly suggested similar processes to be observed in blastomycetes. Subsequently he succeeded in making cultures (Arch. f. Gyn., Bd. 61, 80) of blastomycetes, obtained from human carcinoma, and experimentally produced tumors in animals both by implantation of cancerous tissue and from the cultures. Quite numerous drawings illustrate his articles. That the objects studied were blastomycetes Leopold was able to assure himself both by observation, extending over long periods in his specially constructed heated microscope, and by fermentation tests. Leopold's results have been confirmed in several respects by other observers; thus Kahane repeatedly found blastomycetes in sarcomata and carcinomata examined in a fresh state and succeeded in making cultures; Busse obtained white yeast cultures from a sarcoma from a four-year-old girl, from surface epithelial cancer and from a carcinoma of the cheek; Corselli and Frisco obtained cultures from ascitic fluid obtained by tapping, and from the sarcomatous mesenteric glands removed at the section; Roncalli obtained cultures from a lingual cancer and from a mammary sarcoma, in both of which in fresh preparations many doubly contoured cell inclusions were seen; Curtis obtained the same from a myxo-sarcoma. Leopold himself obtained cultures of blastomycetes from the circumference of four malignant neoplasms including an ovarian carcinoma, a double ovarian carcinoma, a carcinomatous nodule of the breast with infiltration of the axillary glands, and from a carcinoma of the vaginal portion of the cervix. In animal experiments San Felice produced adeno-carcinoma by injecting saccharomyces neoformans into the mammary gland of a dog, and the diseased lymph glands contained the same epithelial elements. A pure culture injected into the scrotum of a dog produced adeno-carcinoma in the main growth and in metastatic nodules. In Corselli's and Frisco's experiments the ascites fluid and their cultures were pathogenic in guinea pigs, rabbits and dogs, and produced neoplasms. Curtis' myxo-sarcoma produced tumors in animals, but which were

not histologically malignant. From this it appears that only San Felice succeeded by the introduction of cultures of blastomycetes in producing tumors of connective tissue and epithelial origin, which were malignant, contained blastomycetes and caused the death of the animal. From the survey of his work, Leopold became convinced that it would finally become possible, under favorable conditions, to propagate in another animal these growths with which he had been working, and after numerous attempts he was successful. He inserted a fragment of tissue from the circumference of a cervical cancer into the adbomen of a white rat, and one hundred and fifty-six days later, after the death of the animal, a tumor was found beneath the liver, consisting of a multilocular mass, which, within a tough capsule, contained some purulent fluid in which numerous blastomycetes were found. He also suceeded, by the injection of pure cultures into a rat, in producing a giant celled sarcoma. Leopold believes that blastomycetes may be the cause of malignant neoplasms in the human being, and from the latter they may be transferred to animals and cause their death. His experiments are unfortunately not complete, since he has not as yet made cultures from his sarcomatous rat and induced malignant disease in another animal. His critics (Noesske, Centralbl. f. Gyn., 1902, 507) have emphasized this fact, and have also said that in the rat above referred to the growth consisted of giant cells in granulation tissue.

Max Schuller has also isolated and described what he believes to be a parasite causing cancer. It consists of a small round body, the rather thick walls of which are striated and enclose a granular mass or oval bodies resembling the parent cell. They vary in size and are often hyaline in appearance. With the exception of the striations of the wall his parasites resemble those described by Leopold, but he distinctly says they are not blastomycetes. In his smaller article (Parasitare Krebsforschung, Berlin, 1903) he does not further classify them. He has isolated from malignant growths, has cultivated them, and made some animal experiments, and has shown that they occur in many forms of cancer. He is convinced that these bodies are the cause of cancer, though his critics say that they consist only of foreign matters accidentally obtained by faulty technique.

Gilchrist (Johns Hopkins Hosp. Reports, Vol. I., and Tr. Amer. Med. Asso., 1902, 1480) has made extensive studies of diseases due to the agency of protozoa, and has particularly described the conditions found in some cases arising from coccidial and blastomycetic

infection. It is only fair to say that he has not been able to confirm many of the observations of investigators who preceded him.

Thus we see that just at present the entire subject is in an unsettled condition, though the amount of time and labor expended has been astonishingly great. It must be conceded that so far we have no conclusive proof of the parasitic origin of cancer; on this account, as Cullen says, the view is gaining ground that cancer is primarily a disease of the epithelium, but we still remain totally ignorant of the cause of this cell alteration. Investigations are now being directed along these lines, but we cannot devote the necessary space to their review. In this connection, however, one cannot fail to be impressed with the confidence which Leopold displays when he says that an experienced microscopist who has devoted many years to such studies must necessarily have become familiar with the forms of cell degeneration, and, therefore, when any new objects appear in his microscopic fields specially prepared for studying them, he must be able to appraise the latter at their real value. Many authors also are ready to agree with Pianese (quoted by Cullen) that the parasitic origin of cancer is a justifiable hypothesis, and it must be conceded that a parasitic origin would explain the majority of its clinical manifestations. The truth of the matter is we find ourselves just now at a historical stage in the study of this question corresponding to the time when Semmelweis published his views concerning puerperal fever. His views would have been accepted could the special committee appointed to conduct animal experiments have been successful in them. The experiments were made and the results, unfortunately, were negative. We know now why they failed, but it took many years of close study to determine why infectious matter introduced into the vagina of some of the lower animals did not produce puerperal fever in them. Another similar instance is furnished in the writings of Oliver Wendell Holmes about the contagiousness of puerperal fever. In the light of today it is profitable to read his arguments and examine his clinical proofs, as mentioned in his controversy with a well known teacher. In the former instance the laboratory proofs demanded could not at that time be furnished, and in the second instance the weight of authority was against the advocate. But just as in these instances, subsequent years with their improved methods and technique revealed the etiology of puerperal fever, so it is not unlikely that the etiology of cancer will be cleared up. In the meanwhile, as Czerny says, it is to be hoped that adverse criticism will not deter investigators from pursuing the subject.

There are some authentic observations about carcinoma which should hold our attention in considering its etiology; indeed, these observations are so striking that they may well be used as arguments in favor of a parasitic origin of the disease. As Frommel says (Veit's Handbuch, Bd. III., II., I.), however, and we may well agree with him, that the proof of the parasitic origin must not rest upon arguments and clinical observations, but laboratory demonstrations are required. Still it is self-evident that any theories founded upon microscopic examinations must also be able to explain generally observed clinical facts. Thus, for instance, if we are inclined to accept the theory of nuclear degeneration or other epithelial changes, a rational explanation must be offered of why cancer appears to show a predilection to occcur not only in certain geographical localities, but in certain houses of a town, and in other members of a family who have been in prolonged contact with a cancer patient. The failure to prove a positive is of course no evidence for a negative, and the converse is also true. Moreover, such suggestions that cancer is dependent upon a modification of the formative process by abnormal forces generated within the body (Williams, abs. Amer. Jr. Obs., XXXIII., 451), or that the fundamental phenomenon is the assumption of a habit of growth independent of external stimulus (Adami, abs. Amer. Jr. Obs., XXXIII., 609) may probably be classed with a former suggestion that puerperal fever was caused by psychical disturbances. When the latter author says that the only distinction between inflammation and cancerous growths is that in the former the abnormal growth ends when the cause of irritation is removed, while in the latter the cells have gained a habit of unrestrained growth from frequent multiplication in a somewhat embryonic state, the question at once arises, irrespective of laboratory proofs, as to why the general laws governing reactions in the system have made such a striking exception in the case of cancer, and why the most hideous and malignant of human diseases should not depend upon an external stimulus, but arise from just an innate wickedness of certain cells. The idea is not plausible in the light of our present knowledge of other processes.

There is, of course, an essential difference between inflammatory processes and neoplasms, but just the existence of these differences speaks in a measure for a parasitic origin of the latter. Martin (Abs. Amer. Jr. Obs., XXXIII., 609) has pointed out that parasites cause cell proliferation independent of inflammatory conditions,

as shown by the lymphoma of typhoid and the enlarged spleen of malaria, a proliferation analagous in general features to cancer; that they produce metastases as does cancer; that they often select special cells for their habitat, as blood cells in malaria, multinuclear leprosy cells in leprosy and giant cells in tuberculosis, while the hypothetical cancer parasite may equally well choose epithelium. Finally, certain parasites, coccidia, cause in the bile duct of rabbits an increase of epithelial and fibrous tissue closely resembling malignant adenoma of the rectum.

Irritation alone cannot cause cancer. This has amply been demonstrated by experiments extending over long periods of time and continued most persistently. Inflammation may be produced or granulation tissue or hypertrophy may arise, but there has always so far been lacking that something which stimulates the epitehlium or glandular cells to reactive proliferation unassociated with the usual evidences of inflammation. But when chronic, non-experimental irritation has long existed in a certain part of the body, *plus* that unknown agent of cancer, then arises, for instance, the smoker's lip cancer. Long-continued, chronic irritation has been found to precede carcinoma in bodily localities where it most prevails, namely, the female genitalia, and particularly the cervix uteri. Many cases affected with cancer here have displayed an unusual fertility in former years. Difficult labors also often precede cancer, though not immediately. It has been found that in frequently repeated metrorrhagia an examination of the fragments from first curettements have been negative, while in the later repeated curettements the tissue showed evidences of cancer. Long-continued irritation of the cervix, as in old cases of laceration, are a well recognized precursor of cancer of the vaginal portion. The work of Ruge and Veit in this connection is well known. That cancer attacking the body of the uterus is most frequent in nulliparæ is a significant fact about which one is strongly tempted to speculate in favor of a parasitic origin. In some instances a hypothetical site of infection may not be found externally, as, for instance, when in chimney sweeps the disease first appears in the iliac or inguinal glands.

Further facts may be cited concerning carcinoma which must be capable of explanation by any theory of the etiology ultimately adopted. Thus, cancer is auto-inoculable. It is a common observation that cancer of the vaginal walls is induced from contact with the new growth affecting the cervix. The same occurrence is noted

when a cancer of the upper lip is induced at a point directly opposite a pipe cancer of the lower lip, and the same phenomena of contact cancer is seen when the corresponding vualvar labium is affected from one on the other side. A case is also recorded where a cancer was induced upon the paralyzed arm in prolonged contact with a mammary cancer. The occurence of cancer upon the site of an accidental injury in the neighborhood or a primary growth removed by surgical operation is an occurrence which has been so frequently observed that distance cautions to avoid such injuries are frequently mentioned in the text-books. Transplantation, not in direct line of communication through vessels, is often seen as in carcinoma within the peritoneal cavity. Metastases are so common in cancer as to constitute one of its characteristics, and are one of the principal causes of its malignancy. Did time allow some interesting and instructive data could be recorded concerning them. Experimentally, cancer has been transferred to other individuals by inoculation. Futterer (Medicine, Vol. VIII., 118) mentions thirteen authors who succeeded in transplanting cancer cells from man to animals. He also mentions twenty-one experimenters who had negative results. The successful transplantations were made from man to dogs, rats and white mice. From the above he says it can be concluded that many transplanted cells perish despite the fact that, as shown by successful transplantation, carcinoma cells have inherent qualities that allow them to grow when transplanted. Transplantation of carcinoma cells from one animal to another have frequently been successful.

Carcinoma has long had the reputation of being hereditary, but that view has gradually lost ground among physicians. It is true that many observations seem to substantiate this belief, but the same is true of tuberculosis, and yet in the latter disease the idea may well be thrown out of account, as has recently been proven to be the correct thing to do. We may perhaps still be permitted to use the vague term hereditary tendency, that is, some individuals inherit a greater predisposition to the reception of certain diseases than others, but the idea of heredity in its former accepted significance seems doomed to be abandoned. Close observation seems to justify this position; thus Cullen found that in seventy-six cases there was a family history of cancer in fourteen instances, which equals 18.4 per cent.; Gusserow found a family history of 7.4 per cent. in a series of statistics collected from the literature, and v. Winckel found 6.3 per cent. among his own cases.

In studying the geographical distribution of carcinoma it appears that a predilection exists for certain localities; thus Haviland (Practitioner, 1899, April, page —) says that the districts having the highest death rates for cancer among women were invariably associated with seasonally flooded areas traversed by or in close proximity to fully formed rivers. That, geographically, these high mortality districts were characterized by aluvium and subsoils of clays of every variety of age and formation. That the districts having the lowest death rates from cancer were situated on elevated land, where the drainage was good and the physical features of the country were such as to preclude the possibility of floods. That, geographically, these low mortality districts were characterized by the oldest paleozoic rocks, especially those of the carboniferous limestone period. That cancer prevails not only in such wide areas, but has been confined to certain villages, houses and even rooms, is mentioned by Power (Practitioner, 1899). In the editorial review (Annals of Surgery, Vol. XVII., 212) of Gueilliot's work on the contagion of cancer an amazing array of such facts is recognized. The same may be said of Behla's report (quoted by Kroemer, Arch. f. Gyn., Bd. 65, 685) of the prevalence of cancer in various localities in Europe. The repetition of well substantiated observations like those just mentioned could be multiplied indefinitely, but sufficient has been said in a suggestive way to indicate that to say in debate as yet we have no conclusive proofs does not by any means dispose of the problem of the parasitic origin of carcinoma. Roger (Introduction to the Study of Medicine, New York, 1901) even says he does not see how cancer can be explained upon any other theory.

In conclusion, it is true that the investigations of the etiology of cancer have not been able to comply with the four postulates of Koch, and it is just possible that the study of parasites in general may show that we will of necessity be compelled to modify our demands for them in that connection. Such is the fact with reference to the plasmodium malariae, and some other recognized infective organisms. Reviewing the entire subject, one cannot avoid the conviction that we are on the eve of great revelations concerning cancer and other diseases about whose essential causes we have so far only been permitted to entertain very probable hypotheses.

LOCOMOTOR ATAXIA: A CASE.

WILLIAM F. BAKER, A. M., M. D., PHILADELPHIA.

It is my intention to present to you to-day a case symptomatic of locomotor ataxia, and in so doing to call attention to a few facts concerning its pathology and pathologic diagnosis. Spinal localization has within the last few years been more closely studied than formerly, and such cases with post mortem reports are indeed instructive. To a society such as this it certainly must not seem out of place to urge upon its members the great necessity for post mortem work, particularly in their nervous cases. The case was a married female, aged 52 years, and a housewife by occupation.

Family History.—Father and sister died of interstitial nephritis. Mother of consumption. The husband at the time of writing possesses absent knee-jerk, Argyl-Robertson pupil and the lightning pains of ataxia. There is one living daughter who is subject to spells of neurotic depression and hysteria.

Personal History.—Has always been very well, indeed; in fact, has always prided herself on her good health. Has been the mother of two children; one died at birth, the other living. Has had none of the children's diseases. Climaxis occurred at 48 years of age, and passed through without symptoms.

History of Present Illness.—Was perfectly well until six years ago, when in an attempt to go down stairs she fell, striking the back and sliding, injured the spine in its entire length. The symptoms noted from this injury were soreness and bruised condition at the site of injury and an inability to move in bed. This, however, was ascribed to the muscular soreness and spinal contusion, for there was no other evidence that would lead one to suspect intraspinal lesion. The reflexes were not affected, and then the condition only lasted ten days. As the soreness wore off she was enabled slowly, at first, to move about. For some time following the only symptoms noted were weakness and general debility with great difficulty in stooping and bending. This discomfort was described as a girdle sensation, as though she were being held tight. In one year's time from the accident she began to complain of sharp shooting pains in the ankles and limbs. These were particularly severe

at night, and kept her from sleeping. Very soon after the pain began in the feet there appeared a swelling and puffiness in the ball of the right foot, which was attended with great swelling, heat and redness. Ecchymoses made their appearance, and the condition was diagnosed as gangrene; incised and drained. There was, however, little pus, the swelling and redness disappeared, but not the peculiar discoloration. The wound gradually healed, but in so doing the patient complained of loss of sensation in the foot, particularly noticed when walking, or, as best described by herself, is that she "felt as though she were walking on cotton." Soon after healing a small fistula made its appearance at the side of the incision, and this despite all efforts at treatment, never healed.

The next symptoms to make their appearance were those affecting the eyes. The patient complained that she could not see well and could not walk in consequence of dizziness. Then, and never previous, did the gait become impaired. Gradually but steadily the gait became ataxic and unsteady, until navigation in the dark was well-nigh impossible. Following next in order was the pupillary disturbance. This was made manifest first by a sluggishness, and later an inability to react, giving us the typical Argyl-Robertson pupil. Next in order lightning pains were experienced, and they came in the form of gastric and bladder crises. These were at first diagnosed as gastritis and cystitis, and, indeed, their symptomatology closely resembled these conditions, but had these peculiarities, viz.: (1) Sudden in appearance; (2) sudden in disappearance; (3) uninfluenced by medication. The attacks in the stomach were associated with nausea and vomiting, and those in the bladder were associated with retention of urine. Appetite and digestion during the intervals seemed good. Bowels act fairly well at times, and again at times a profuse diarrhœa makes its appearance and partakes of the same general characteristics as do the attacks of pain. The urine is free and passes in large quantities; at times there are attacks of incontinence, followed by retention. Sleep is fair but greatly disturbed by dreams. One interesting feature of this case were repeated attacks of pain involving the facial nerve, and these seemed to also come under the same characteristic heads. The menstruation ceased several years ago, and she seemed to suffer no ill results thereform.

Physical Examination.—The general appearance is one of anæmia. Hair shows signs of having fallen out. Eyelids are œdematous. All the tendon reflexes are absent. Knee-jerks absent. There is

marked static and locomotor ataxia, although the static ataxia is most marked. There is no disassociation of sensibility.

Examination of the eyes shows a double optic atrophy and large amount of pigment on both sides of the disc, more markedly on the temporal side.

Heart shows no adventitious sound except perhaps an accentuation of the second sound.

Vaginal examination shows a lacerated perineum and cervix, also climacteric atrophy of organs.

Urinary examination shows a pale urine of 1008 specific gravity. Microscopically, granular and hyaline casts. Urea much reduced (at the time of examination 250 grs.). Electrical reaction showed the presence of the reaction of degeneration.

Summing up then the symptomatology thus presented and adding to this the evidence gained by our physical examination, the diagnosis from a clinical standpoint cannot be otherwise than that of tabes. To be sure the usually observed course of the symptomatology is very much disturbed, but this only adds to the interest in the case. The usually observed order of frequency for symptoms is: 1. Lancinating pains; 2. cystic weakness; 3. weakness of the legs; 4. paræsthesia of the legs; 5. girdle sensation. In this case you will remember that the first symptom complained of was the girdle sensation, then the lancinating pains, then the ulceration of the foot, then the eye symptoms, and, finally, the disturbance in gait made its appearance. It is not unfair to assume that with the difficulty in seeing the ataxic gait was very much aggravated. Another unusual symptom was the pain involving the facial nerve. Cranial nerve affections are somewhat rare in tabes, particularly those affecting the trigeminus. When there is a persistent neuralgia we have loosening of the teeth and falling out. Notwithstanding the fact that the jaw is toothless, the pain continues and may also be associated with a necrosis of the jaw bone. Looking at the case we have presented many unusual features, and particularly is the case of value because of it being under supervision the whole period of its course, viz., six years. Sometime after coming under observation the patient grew gradually worse. The pain in the limbs and face made life unbearable. Insomnia made its appearance. After an attack of syncope, which came on very suddenly, the patient entered into an uræmic state, and was attacked by sinking spells, dying in one of them. This showed the evident involvement of the medulla.

Autopsy Report.—Body of a poorly nourished woman. Instead of going into the details of the pathology, we think it will suffice if we mention only the salient features, and one of the most striking was the porous condition of the bone (this is better known to some as a rarifying osteitis). There is shrinking of the compact substance of the bone, and the bone appears as though it were more spongy than normal. The medullary canal of the long bone of the thigh was larger than ordinarily we would expect to find it. Particularly was this condition evidenced in the base of the ulceration in toe. The cavity led down to soft spongy bone and granulations. The ends of the bones in the foot and the joint surface seemed roughened and enlarged.

There was evidence of a marked arterio-sclerosis. There was also marked evidence in the kidney and in the lung fibrosis.

The macroscopic appearance in the cord were cloudiness of the spinal membranes overlying the dorso-lumbar region quite at the junction. The meninges were thickened, and on section the posterior columns presented a whitened, sclerotic appearance. The cord seemed unusually hard and firm so that is could readily be removed without tearing. The sclerosis seemed to be unevenly distributed throughout the cord, and there was present an ascending degeneration. This was rather in doubt at first, but the microscope seemed to verify our observations. The brain changes observed were an increased amount of fluid in the subdural space, a general decrease in the size and weight of the brain. In places on the cortex small areas of adhesions were observed between the membranes and the brain substance (chronic lepto-meningitis).

Thus briefly, then, we have summed up a case of locomotor ataxia with marked cerebral symptoms. Judging from the autopsy findings we have a well advanced case, and yet from the history of the case six years.

The cerebral condition, indeed from the macroscopic findings, closely resembled a paretic dementia. This is the usual termination of all cases of locomotor ataxia.

Passing by the amount of discussion as to whether tabes be a syphilitic or para-syphilitic manifestation, we conclude by saying that the disease is especially noted for its ascending degenerations. These ascending degenerations are the result of a syphilitic toxin which affects primarily the cell body of the fibres making up the afferent class. The posterior columns are most affected, also ganglia.

EARLY OPERATION IN APPENDICITIS FROM A PATHOLOGICAL STANDPOINT.

J. E. BELVILLE, M. D., PHILADELPHIA.

It is not my purpose to review in detail the well-known pathologic changes in the appendix associated with and arising from the condition known as appendicitis, but simply to report the pathogenic findings together with the histories of a number of cases because to me they seem to bear very strongly upon the question of early operation. These are not selected cases, but rather in the routine examination of appendices removed in cases coming under my personal observation, nor are they presented as at all peculiar or unique, but as representing the various forms usually met with. It would seem no doubt to many of you that all that can be written upon the subject of appendicitis has been written and yet upon some phases of the subject we are as much at sea as ever. This is evident in no one particular more than in the active controversy still in progress as to whether the appendix is a vestigial organ or an organ having in its normal condition a definite physiological function. Sajous in a recent summary arrives in a rather question-begging manner at the conclusion that the appendix is a bactericidal organ similar, as he says, to the tonsil, and argues against its removal on the same grounds as those taken against the removal of the tonsils. Basing this conclusion as he does upon the assumption that this function has been proved for the tonsils, which is far from the fact, his argument is far from convincing. It is somewhat disconcerting to this view of the case that the period of life in which there is the greatest activity in lymphoid tissue development should coincide with the period of greatest susceptibility to infectious disease.

I think that it will be possible to demonstrate to you that even granting for the sake of argument that the appendix does possess this function when normal the changes that take place in it due to inflammation are such as to deprive it of the possibility of exercising it just as the same proposition has been already demonstrated regarding hypertrophied tonsils, so that any argument against operation based upon this ground is unworthy of consideration.

As to the vestigial character of the appendix very little can be

learned from the history of its development, but very much in support of a third view of the subject presented by Dr. Horace Packard in his classical article, entitled "The Involution of the Appendix."

The appendix appears first as a blind overgrowth from the cæcum, attaining its largest relative size at about the sixth month of fœtal life. Its development seems to be arrested at this point, and retrogression changes according to Dr. Packard begins. Any one who has examined a large number of appendices removed by operation, and at autopsy in cases presenting no definite history of appendicitis cannot but be impressed with the frequent finding of chronic changes in the appendix pointing toward this gradual obliteration and involution. It is an interesting fact which it might be well to mention in this connection that in both acute and chonic cases of appendicitis the pathologic changes are entirely disproportionate to the severity of the clinical symptoms. In numerous cases with a history referable to a diseased appendix dating back only a short time previous to operation, changes are found indicating long continued proliferation of connective tissue. In the large number of appendices examined this increase of connective tissue takes place to a greater extent at the proximal than the distal end of the appendix, though it sometimes appears at unequal intervals along the whole appendix, and in a not inconsiderable number affects the whole organ.

A chance case led me to what appears to be a rational explanation of these facts. In examining an appendix supposed to be normal removeed from a patient who had died of general carcinomatosis section showed the presence of a large fecal concretion, which by pressure had set up a low grade of inflammation with points of local gangrene in the mucosa. There was a marked infiltration of the mucosa with cells which on closer examination proved to be not the ordinary round cells of inflammation, but large numbers of eosinophiles. Upon investigating the subject I came upon some observations made by Dr. Howard Perkins, of Johns Hopkins, which seemed to indicate a probable cause of the proliferative changes spoken of above. He found in a number of normal appendices as well as in those in which there had been attacks of acute and chronic appendicitis large numbers of eosinophiles. He also observed intermediate forms indicating the transformation of eosinophiles into connective tissue cells. Knowing as we do the imperfect blood supply of the appendix and its liability to sudden changes of blood pressure, the twisting upon itself which has been shown to so frequently occur, and

its liability to over-distention, it does not seem to be straining a point to conclude that consequent upon this congestion there is an increase in the number of eosinophiles and a stimulation of their development into connective tissue. It is difficult to account in any other way for the fact that in so large a number of appendices the most constant charge is a proliferation of the submucous connective tissue. This proliferation, however, is not confined to the submucosa, but is found in the lymphoid tissue supporting the epithelial cells, not as offshoots from the submucous connective tissue but formed in situ. It will also account for those not rare forms where complete obliteration has taken place, transforming the appendix into a fibrous cord. I refer here to those cases in which these changes have taken place, apparently in the absence of attacks of active inflammation. In those cases the subject of acute attacks the presence of scar tissue is easily accounted for. In one case which I hope to present to you this obliterative process had gone on evidently for years without the occurrence of an acute attack until within a couple of weeks previous to operation.

With these introductory remarks let me present a few cases, together with their clinical history.

Case 1.—Girl, aged 16, January 27, 1903, was taken with some slight pain, as she expressed it. Saw her at 8 P. M. Pulse, temperature and respiration normal; bowels regular; slight colicky pain radiating from the umbilicus, slight rigidity, slight tenderness at McBurney's point, little if any distention. On the following morning patient reported that she had slept well through the night, bowels had moved, pain not severe, other symptoms as before. On visiting patient same evening found her complaining of but little more pain than in the morning, but tenderness excessive, patient flinching upon lightest touch, advised immediate operation. Case was removed to hospital, and after patient had been put to bed pulse, temperature and respiration were normal, and tenderness over appendix seemed less. Dr. Van Lennep, however, believing that the patient was unconsciously deceiving, advised an operation at once. On opening the abdomen the appendix was found distended almost to bursting, and perfectly free from adhesions. On placing appendix in formalin rupture took place with the escape of a large amount of pus.

Microscopic section showed an obliteration of the proximal end of the appendix. The patient gave a history of three or more previous

attacks, which had not been recognized, but were supposed to have been caused in some vague way by a fall from a horse.

Case 2.—Mr. E., æt. 24, had suffered for three or four years at intervals with colicky pains, but with no acute attacks.

Attacks.—Tenderness was not marked at any time, and for a year or more I had considered the case to be one of hysterical appendix. These pains became more frequent and more severe without any tenderness except on very deep pressure. Pain was almost constant, at times severe. No other symptom presented. Dr. Van Lennep, to whom the case was referred, diagnosed chronic appendicitis, and advised operation, as the patient proposed taking an extended trip where she would have been away from skilled surgical attendance. On removal section showed beginning obliteration of the proximal end of the appendix with infiltration of leucocytes throughout the entire appendix, with purulent foci located in the circular musculosa and some lying immediately beneath the peritoneal layer, indicating the strong probability of a fulminating attack similar to the one previously noted, if the organ had not been removed.

Case 3.—Patient, aged 40, passed through three very slight attacks, the symptoms being thought a very mild attack of appendicitis. On operating, which was undertaken between attacks, appendix was found low down and bound down by adhesion with beginning formation of pus requiring the wound to be packed.

Microscopic section showed a very much contracted lumen, it at one point seeming to be divided by bands of connective tissue.

Case 4.—A young man, age 23. Had but one attack without any history of previous attack or any history suggesting the occurrence of inflammatory change in his appendix. He was anxious, however, to have the offending organ removed. On removal it was found to be cordlike in character, and on section showed complete obliteration at some points, at others the lumen could still be demonstrated with the epithelial lining. There were a number of such dilatations occurring at intervals along the whole appendix.

Case 5.—Duration 8 hours from examination to operation. Mucous membrane already gangrenous.

These cases I have cited are not isolated and selected, but from the general run of cases as they present themselves, and I think the safe conclusion seems to be that given a diseased appendix, which I think I have shown is a progressively degenerating appendix which at any time may develop fulminating symptoms, it is as reasonable

to urge delay in operation as to urge waiting for rupture when a positive diagnosis of ectopic gestation has been made, and as dangerous to the patient. I realize the objection that will be made to generalizing from apparently a few cases, but these are but typical of a large number of cases. The first and fifth serve to show how grave and dangerous pathologic changes can go on in the appendix almost to the point of rupture and gangrene, respectively, without adequate corresponding clinical symptoms. Pulse and temperature are unreliable guides.

DISCUSSION.

Dr. T. L. Chase: Dr. Belville's paper brings to our minds the importance of understanding the pathological changes that take place in the appendix when the exterior condition of the case shows that very little is wrong. He tells us that very little dependence can be placed upon the pulse and temperature, and that I have seen time and time again. His paper brought to my mind a very interesting case I saw some time ago in a child, and in children appendicitis is specially liable to be of the fulminating type. This case was one that occurred in a child eight years of age. It was on the 4th of July. The child was out in the street pulling other children in an express wagon. He left his play, went home, went upstairs and went to bed. I saw the child about 5 o'clock, which was an hour after he had left the street and gone up to his bed of his own accord. On examining the child I found he was rigid over the entire abdomen. There was no one point more tender than another. I saw him again at 9 o'clock that night, and then decided upon opening the abdomen, which was done about midnight. The appendix was ruptured, showing free pus, and the child died of septic peritonitis about four hours later. This is one of the cases showing the rapid progress of the disease, especially in children. Here was a child eight years old in whom the pathological changes took place so rapidly that the appendix ruptured within a few hours.

Dr. H. M. Gay: It seems to me that the question whether or not the appendix is vestigial is not simply to be left to speculation. We are apt to think of appendicitis as a disease, and the changes in the appendix as the result of long continued inflammatory action, and seek for the causes in indigestion, trauma, or some other condition we can put our finger on. Every man here must have in mind half a dozen cases or more where there have been absolutely no symptoms

in people who are not given to gastronomic indulgence, who have not suffered any traumatism, and who have lived in every way an apparently healthy life, and yet they are suddenly taken with colicky pains, and upon operation we find the appendix is rotting off, swollen and soft, and you wonder upon seeing the condition for the first time. Any person seeing such a condition could not help being frightened at the conditions found, and it seems to me that that fact should lead us to think that the appendix is a vestige or becoming so. One more point, that is the question of appendicitis obliterans. We find cases of appendicitis obliterans in patients who have never had an attack of appendicitis. They die of some other disease, yet the appendix was obliterated. I have in mind a case of a patient who has had frequent attacks of appendicial pain with many symptoms, and finally wound up with terrific pain, high fever, persistent vomiting and rigidity of the abdomen. He was operated, and what did we find? The appendix inflamed? No, appendix obliterans, and appendix with four or five constricted points, the whole appendix not larger than a good-sized knitting needle, and this attack I believe was from that, because since the removal of this appendix there has been no recurrence of those long continued symptoms and no recurrence of acute symptoms. One more point and I will close. Judging from other conditions, we know that inflammatory action is often associated with vestigial organs. All of us who have driven horses know that horses are prone to the formation of splints. What is that? Simply an inflamed area around the vestigial metacarpal bone. We find the splint bone shrunken away to almost nothing, yet we find even in horses who are not driven too hard this inflammation being set up. It seems to me these things taken together cannot help but make us feel the appendix is vestigial. Therefore we are dealing with the proposition that we cannot judge according to the amount of fever and cannot gauge the amount of inflammation from the outside. The only thing is to get the appendix out.

Dr. Robert Walter: I would like to emphasize what the last speaker has just been saying. I had a case of appendicitis brought into my institution some few years ago. The man was suffering very severely with pains, and the surgeon whom I had in my employ was going to operate. I said, "You had an operation." There was evidence of scars that he had been operated upon for that very disease. Yes, he had been operated upon. Of course the absurdity of another operation ought to be clear enough. I have had a good many

cases to treat in the last twenty years, and we have never had an operation in a single case. I remember one particular case of a relative of mine whose mother wrote to me from Toronto saying, "The doctor says the patient will die if she is not taken to the hospital and operated." I said, "Do not send her to a hospital, send her down to me." She sent her down to me and I gave her treatment. She had one or two attacks while she was with me. She worked for me for a year or two. When she had an attack we treated her with reasonable methods, got her over her appendicitis, and after a couple of years she returned to her home in Canada, and has been following her occupation as a shorthand writer, and I hear from her occasionally. She says, "Whenever I get appendicitis I run away and take a vacation, and that is all there has been about it." We have had persons in our employ who had repeated attacks. About every six months or a year there would be another attack of appendicitis. The abdomen would swell, the patient would suffer, there would be vomiting, and all indications of the severest kind. If they have pain we put them into a hot bath, warm them up and relieve the pain. I never saw a case we could not relieve by simply putting it into a hot bath. We put them in and keep them there long enough, if necessary, to nauseate them and relax them until they have not much ability to have a pain, and if you will treat your patients in that way they very soon get over it, and very likely these appendices that are rotten become absorbed and nature does the surgery which you proposed to do. In our experience we have never found a case yet that we could not control and manage without any operation. I do not say that there are not such cases, there are many, but we have not found them, and we take them where surgeons have said they must be operated upon or they will die, and they do not die. Neither you nor I know how to make an appendix. Neither you nor I know how to make a bowel. Neither you nor I know how to make a heart. But I do know of a power and an intelligence which knows how to make those things and knows how to heal them, and if they are not healed in ninety-nine cases out of one hundred it is simply because that power has been wasted or dissipated by bad habits of living, by overwork, by carelessness in one direction or another, which could all be remedied by rest, hygienic habits of living, correcting the patient's habits all the way through, and allowing nature to heal him. Nature will do it, but the necessity of the surgeon comes in in order that the patient may continue the habits which made him sick, continue a

life of exhaustion until he dies from exhaustion, and you help him along with the knife occasionally. A better way would be, as it seems to me, to teach that man to live so as to recuperate his vitality. Fill him up with vitality. Every human organism is a reservoir of vital power, and you can fill that organism with vital power just as certainly as you can fill a storage battery with electricity, and just as certainly as you can fill a reservoir with water. All you have to do is to get the conditions. You can fill that man brimful. After you have filled him brimful you can snap your fingers at all diseases that come along.

Dr. C. P. Seip: I never had appendicitis, but I believe if I had all the symptoms of appendicitis that Dr. Belville read of here I would take my chance on the knife and let him continue on with his theory. When an organ is once diseased it is a hard thing to restore it to vitality. It is strange how long a patient may go without an operation. About six months ago they sent an old lady to a hospital who had had appendicitis for two weeks. She got into another department, was there one day, and was brought over to the surgical department at 5 o'clock in the evening and immediately taken to the operating room. That woman had suffered for two full weeks. She lived about forty miles from Pittsburg. She was brought on a rough wagon to a railroad train and then brought eighteen miles by railroad and then nearly another mile by ambulance after suffering two full weeks with appendicitis. She had a general peritonitis. When I opened that abdomen the entire bowels from one end to the other were intensely inflamed. There was a mass of plastic material all over the abdomen. The woman was almost moribund. It took a long time to find the appendix, and it was in such a condition that I thought it advisable to drain through the vagina, but there was about an inch of tissue between the posterior vaginal wall and the abdominal cavity, and I was afraid to go through there. I packed the whole abdomen and broke the abscess, got the appendix, and the condition was such that I could not close that abdomen. I simply packed it with sterile gauze, covering the bowels, keeping them in, and then retained the whole mass with adhesive plaster. For three or four days she was kept in that condition. Then she had to be exposed again to get this all out. To make the story short, the woman made a complete recovery. Hers was a case continuing two weeks, and there were at least twelve to sixteen ounces of pus in there. Now I come to another case, that of a child, almost similar to the one

spoken of by Dr. Chase. The child was thirteen years old, and was out playing on Saturday afternoon. She went to bed that night, and the next morning took a drive in a carriage. She complained of a little pain in the afternoon. That night a doctor was sent for, but he sent her a dose of morphia. The next morning he called. He did not find very much wrong with the child. She was quite cheerful, had a little pain, but that afternoon he was sent for in a hurry, and she was in a state of collapse. He telegraphed for me. I had nearly a hundred miles to go, and did not know anything about the case. I got there and met the doctor in the evening at 8 o'clock, and all that afternoon he had been giving that child one-thirtieth of a grain of strychnia to get her heart back in good condition so he could operate on her, and every third hour a quarter of a grain of morphia. I was there half an hour before the doctor got there. Every time I would attempt to feel the child's pulse she would jerk and it would sometimes almost throw her out of bed. That is a strychnia symptom. That child never recovered sufficiently for operation. She died the next morning at 8 o'clock, and the entire abdomen was full of pus. It is hardly probable that that pus formed in twenty-four hours. It shows that sometimes these cases will go on, pathological changes will go on, pus forming without any symptoms indicating anything of the kind. I have a case now of appendicitis obliterans This man was brought into the hospital. He was an engineer in the fire department. He came to the hospital and said he had a tender abdomen. He said, "I am not bad now, but I get a bad attack every two or three months." I operated on him. The man had no appendix; none could be found. That was one of the cases in which I was not so radically conservative. I was determined to find the appendix if it was in there, almost turned him inside out, and did not find the appendix. It shows sometimes we have a case where there is change in a man who has no appendix, but I found near the cœcum evidences of old inflammation. There were adhesions. I broke them all up, and it is now four years and that man has not had another pain. He has been working every day in the fire department, and has never had another return of pain there, but he had all the indications for appendicitis. Some of the younger men who were present thought perhaps I was not careful enough, and should have gone a little further, but when you turn out about eight or ten inches of bowel all around where the appendix ought to be and do not find it you can safely say that man had no appendix.

What brought on those symptoms? There was no evidence that he ever had an appendix, yet he had all the pain. There was inflammation around the cœcum, and it seems to be correct to assume that many cases of appendicitis may originate directly from the cœcum; and further, that it caused peritoneal inflammation, for he had all the symptoms. That is the only way I could account for the man's condition. He made an entire recovery. The three cases illustrate one fact. You may have all the pain of appendicitis and not have the appendix, and yet an operation will relieve the case. Many of these cases of a fulminating character are simply neglected, and I certainly would not think of depending upon internal medication to relieve such a case.

Dr. T. H. Carmichael: I simply want to say I think the great value of Dr. Belville's paper, and it certainly is very valuable, consists in the fact that if we know the pathology of the appendicial region we are better able to obtain the consent of patients to early operations. If we are able to tell them in a general way the condition of things there and the difficulty of differentiating between the fulminating type, which may place them beyond the reach of recovery, and other types, we are then better able to do good for our patients as well as for ourselves.

Dr. J. A. Bullard: I have been very fortunate during thirty years in not having any of the cases that required operation. I have had under my treatment during that time a great many cases that I called appendicitis. They had all the ear-marks. They all got well with homœopathic treatment. I presume, however, that was owing entirely to my good luck in not having any really bad cases. The cases I had were cases that responded to the indicated remedy, and as they got well there was nothing in them for me except the ordinary charge per visit for the prescription.

Dr. R. S. Kistler: I would like to ask a question, because in my experience I have had many cases of appendicitis and some that recurred. I have in mind during this discussion possibly half a dozen cases that had had one, two, three or four attacks of appendicitis, and have recovered without operation. I have had some that have required operation, but in some of these instances where no operation was done they have remained cured for years. Where are we to draw the line?

Dr. F. W. Boyer: Perhaps it is not appropriate for one who is not in the line of general surgery to defend the surgeon who will operate

promptly in cases of appendicitis. I, too, have practiced thirty years, and during much of that time felt as Dr. Bullard has just expressed himself, that I could cure appendicitis with medication. When Dr. Walter spoke we would infer from his language that lack of care, improper diet and unwholesome living were the causes of appendicitis. I felt that he had missed a number of cases that occur in children. In my own experience just a year and a half ago I met an instance of fulminating appendicitis, which, although operated upon in the course of a very few hours, disclosed gangrene with an abdomen full of pus, followed by death from paralysis of the bowels. I have reason to know that my little patient had all the care that parental love and affection could bring her. I knew that her diet was selected all her life. I knew that her clothing was well attended to. I knew that she had every luxury and every care that loving parents could bestow. But appendicitis, notwithstanding that care, came, and her death was to me a great distress. I cannot help but urge you all where you are in doubt as to the character of an abdominal pain in a child or a grown person, so long as the symptoms indicate a condition of a possible appendicitis, not to neglect operation. I believe I have been a successful practitioner, but I failed in that. This is a warning to you who have sufficient confidence in medication to carry on to a full termination a severe condition of appendicitis.

Dr. G. B. Roberts: I want to answer one question. The question has been asked where to draw the line. Draw a line from the end of the superior spine to the umbilicus. Draw another line at right angles to that one-third the distance from the foot of the superior spine to the umbilicus. If I had appendicitis today, even the mildest sort of attack, I would not get out of this town until I was operated on. I have stood at the operating table and seen cases die and seen them get well. I know why the cases died, if they did die. I know why the cases got well that did get well. There is a great difference in the class of cases. It is very possible for a man to observe many cases of recurrent appendicitis through thirty years, and not have seen the cases that require very prompt action, but that does not affect the general result. The general result of these cases is a very large mortality from appendicitis. It does not make any difference what the medical treatment is, these cases recur, and a large percentage of them, although not a majority, ultimately be-

come life jeopardizing, while the operation really is not life jeopardizing.

Dr. J. E. Belville: Those were saved cases I was reporting. I was not reporting post mortems. I was reporting sections removed by operation in which the cases were saved. I do not question that appendicitis gets well without operation, but I say to patients: "You have a diseased appendix, and I do not know exactly what is taking place in that appendix. That appendix may be obliterated from the distal end to the proximal end. It may be doing just the other thing. You can take your chance. If it is going the wrong way you are bound sooner or later to have a fulminating attack: then you must resort to the knife, not in twenty-four hours, as we used to teach, but in five hours." In the case I reported I made it eight hours. I think as a matter of fact it was operated in five hours. The case I reported of my own was operated in twenty-four hours, and would not have gone two hours further without rupture and general peritonitis. Then they say the operation kills the patient because they would not wait until rupture has taken place. Given such a condition, or the possibility of it, in view of your utter inability to say whether that is present or not, and you are justified in giving your patient the benefit of the doubt, and operating when you know he has appendicitis.

AN UNUSUAL CASE OF DIPHTHERIA; NASAL INTUBATION; RECOVERY.

H. M. GAY, M. D., AND C. S. RAUE, M. D., PHILADELPHIA.

The following case is what might possibly be called a medical curiosity. However, it has several points of interest from a practical standpoint:

David E——, an infant of four months, normal as to weight and appearance, living on modified milk of a strength corresponding to Holdt's mixture for the second period, was suddenly taken ill with acute indigestion, associated with a mild degree of gastro-enteric infection, which, under proper dietetic treatment, subsided in two days.

As the digestive disturbance subsided, an exceedingly violent attack of eczema, beginning on the head, quickly spread over the face and neck. The lesions were hæmorrhagic in character. The child's

temperature went up to 103°, the scalp became œdematous, and there was post-nasal and sub-occipital adenopathy.

This inflammatory condition lasted about four days and then began to subside, and while, with the loosening of the crusts, the child's head and face were left almost raw, bleeding freely at each dressing, the conflagration seemed to have burned itself out, and the temperature fell, but not to normal.

About this time the child developed an annoying nasal discharge, and the temperature rose slightly, say 100° to 100°½. On the tenth day of my service on the case, at five P. M., I found that our rhinitis was diphtheritic in character: both nostrils nearly closed, and a broad patch of membrane extending half way down the pharynx. I injected 3,000 units of antitoxin, and asked for counsel. Dr. C. S. Raue saw the case with me at 9 P. M., and we found total occlusion of both nostrils, the membrane extending out over the tonsils, cyanosis and extreme toxæmia. As the child was strangling from the nasal occlusion, and unable to swallow for the same reason, Dr. Raue proceeded to intubate the nose, which, after much difficulty, he accomplished with a small English catheter, which we cut off about one inch from the face. The cyanosis was relieved at once.

During the next five days the child slowly improved, the membrane dropped off the throat, and the nostrils were freed.

On the fifteenth day a suppurative otitis media, with perforation of both drums, supervened. On the sixteenth day the case had a laryngeal relapse of the diphtheria; was voiceless and slightly toxic. I injected 1,500 units of antitoxin. During the next four days there was slight improvement in all the conditions. On the twentieth day a cough developed, then pulmonary congestion, followed by consolidation of most of the upper lobe of the left lung.

Fortunately, the pneumonia ran a mild course, and resolution began in about eight days. On the thirtieth day of my service I evacuated two ounces of pus from the right buttock. Since that time the child has made a slow but uneventful recovery from all the conditions except the eczema, which, however, is of a mild type.

The two chief points of interest in this case, aside from the fact that the child recovered at all, are:

First. The saving of the child's life by nasal intubation. One is apt to overlook the fact that nasal obstruction can cause fatal cyanosis in an infant.

Second. The relatively large initial dose of antitoxin, 3,000 units.

We are apt to gauge the dose of antitoxin by the age of the patient, whereas the amount of toxæmia should determine the dose.

DISCUSSION.

DR. W. G. DIETZ: I am very glad for this paper. It is just long enough to give us something to talk about. The initial dose of antitoxin administered is the important one, and this dose should be commensurate, not with the age of a patient, but with the severity and general intoxication of the system. I think it is far better to give three thousand units as the initial dose than to give repeated doses of lower potency. Another thing is the development of pneumonia, which is so frequently overlooked, and which is one of the causes of death in cases of diphtheria. It is quite often overlooked, and everything attributed to toxism alone without taking any cognizance of the pulmonary inflammation.

DR. C. S. RAUE: This is not a therapeutic section, this is simply a pathological section, so I shall confine myself to a few remarks concerning the pathology of diphtheria. It is a very important fact that the matured cases of diphtheria begin as infection on the nasopharnyx, and in many cases membrane will not be found upon the pharnyx or tonsil until four or five days after initial infection. Therefore, in every suspicious case if we encounter a child with severe rhinitis, an acrid or bloody nasal discharge, it is our duty to examine the post-nasal space. Freeman, of Philadelphia, has paid special attention to this, and he found diphtheria products in the post-nasal space several days before they can be found in the vault of the pharynx or seen on the tonsils. This is such a practical and important point I deem it my duty to mention it, as the chance of curing such cases depends entirely on early recognition of the true nature of the disease.

DIACETIC ACID IN DIABETES MELLITUS.

JOSEPH C. GUERNSEY, A. M., M. D., PHILADELPHIA.

"In all cases of *diabetes mellitus* be sure to make the *ferric chloride* test. The patient should avoid taking drugs for several days before the test is made. To a fluid drachm of freshly voided

urine, preferably passed in the daytime, especially in the afternoon, add, drop by drop, three drops of a twenty per cent. aqueous solution of ferric chloride. A wine-red color at the bottom of the tube below the white mass of phosphates shows presence of diacetic acid, indicates that the case is a severe one, and shows the need of fats in dietary rather than reliance upon meat alone, which in excess may be harmful. A golden-yellow color obtained with this test is without significance."*

Medical text-books and medical journals contain so many references to "Diacetic Acid in Diabetes Mellitus" that physicians having cases of this nature frequently turn to their ferric chloride, search for the "red reaction" and find it—perhaps!

The existence of diacetic acid in diabetes mellitus is declared by high authority to be of grave import; so, wishing all the information possible in my prognoses, I began to test for its presence. After frequent, futile attempts to find it, I concluded that my technique was faulty or that my ferric chloride was not properly prepared, and then I began to inquire of my profesional brethren concerning their experience in the premises.

I wrote to about thirty leading physicians, in both schools of medicine, and in different cities. Several replied that they had never tested for diacetic acid; others tested for it occasionally, and some sought it only when grave symptoms appeared. Only a few looked for it in every case of diabetes mellitus coming to them. In the answers received I felt that I had data sufficiently reliable to warrant me in concluding as follows:

1. In a large majority of cases of diabetes mellitus diacetic acid does not appear.

2. There may be grave symptoms (coma even) without diacetic acid.

3. There may be diacetic acid without co-existing grave symptoms, although

4. Death seems to be the finale of all cases where diacetic acid *is persistent.*

5. Diacetic acid may appear in a case of diabetes mellitus and then disappear, either to remain away, or after a longer or shorter time to reappear.

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*Clifford Mitchell, M. D., the Chicago Homœopathic Medical College Bulletin, July, 1904.

6. Sometimes a marked increase or marked decrease in the sugar, or its complete disappearance, is cotemporary with the appearance of diacetic acid.

7. Diacetic acid is present nearly always (*probably always*) in the diabetes mellitus of young people—say, under thirty years of age.

8. Diacetic acid may be looked for with confidence in diabetic urine where acetone is found.

As a matter of fact one cannot think of diacetic acid without recognizing the presence of acetone; the former may be regarded as nothing else but highly oxidized acetone. A large majority of investigators look for diatetic acid only in acetonuria.

Diacetic acid is a valuable aid in prognosis, *but* we must not forget the value of knowing the *amount* of sugar in a case. We are too often content with ascertaining the presence of sugar and then carelessly guessing at its amount. Only by a knowledge of the quantity of sugar, in grams, can a diagnosis of the patient's condition be made; the severity of the disease measured, and the result of treatment learned.

The amount of urine for twenty-four hours should be accurately noted, and, during collection, kept in a cool place to prevent fermentation.

MEMORANDA REGARDING COPPER TESTS FOR SUGAR.

If sugar be present, a yellow or yellowish red precipitate is found on cooling after boiling with copper solution.

The urine of patients taking *Salicylic acid* gives Trommer's test for sugar. (Merck's Manual.)

Boiling the urine (with copper solution) may cause a greenish reaction; or a grayish cloud; or a greenish-yellow precipitate without sugar being present in any case.

When in doubt, use the yeast-fermentation test.

ADVANCED BIOLOGY, WITH RELATION TO HOMŒOPATHIC PRINCIPLES.

I. W. HEYSINGER, M. A., M. D., PHILADELPHIA.

The majestic figure of Hahnemann must not be projected against the modern practice of medicine, as a background, if one would seek

to understand and realize the tremendous significance of his teachings, and the momentous importance of the revolution which his teachings and practice precipitated.

The science and art of medicine of his day (when he, appalled and disgusted, abandoned the field of practice in which, though a young man, he was already a distinguished disciple) was dominated by a hoary antiquity of tyranny, and permeated with crude hypotheses and false theories, was constructed with its ingenuity directed to incongruous compounds contrived to bring together, into one *olla podrida* of drugs, everything which could apparently bear upon the case, in the vain hope that these mutually hostile elements would forbear from internecine strife, and agree that all should work separately but in harmony, when the very elements of harmony were not appreciated or understood, and their individual powers were not comprehended.

Medicine, in that day, was, in fact, almost precisely in the state in which it now is in the remote interior districts of China, and far behind that which prevailed among the red men of America when discovered by Columbus. But it had a dogmatism and a despotism which we only can appreciate when we still see its malevolence carried down by tradition from those bad old days, and only modified and tempered in our own by its impotence.

But even in those old evil days of medicine, his enemies, like Arabs, followed him while they cursed him, and plundered him when they reached him.

No old school doctor who reads or thinks is proud of those pre-Hahnemannian days; medical practice today is far further removed from the practice of those times than it is from all the teachings and practice of Hahnemann.

It is, indeed, a misnomer to speak of the "old school" practice, for it is far more recent than the established practice of Homœopathy, which latter has not varied in principle or application from the beginning, and doubtless never will. The means, the mechanism, the arms and armor, may be enlarged and improved, but the living principle, "the man behind the gun," will still load, and light, and fire, and the enemy of health and of human welfare will still totter and fall before him.

We cannot compare the teachings and demonstrations of Hahnemann with modern medicine, simply because Hahnemann has reconstructed all medicine, of every name and school. Every principle of Hahnemann is now, in substance at least, an incorporated part of the

regular old school practice in its most advanced form and as taught and practiced by its most advanced teachers and clinicians.

So recently as 1902 Dr. Loomis published, in the Boston Medical and Surgical Journal, a paper warning the profession against the danger of following the methods and manufactures of the "compound drug purveyors," which "beasts of Ephesus" we, too, are compelled to face and fight, especially in the hands of our younger colleagues. Dr. Loomis lays down a set of aphorisms, which the professor of therapeutics at Jefferson Medical College reproduces in the Therapeutic Gazette as "sound therapeutic aphorisms."

They are nine in number, and every thinking and reading homœopathic physician,—I hope there are no others,—will at once recognize that every one is sound homœopathic teaching and practice, and could have been written by Hahnemann, was demonstrated and so written in fact, but certainly by no one else before Hahnemann.

"1. Keeping in mind the tendency of self-limitation of pathological processes and the possibility of cure as a result of natural forces, never prescribe a remedy that will interfere with, or upset the conservative effects of, the organism.

"2. Keep the problem of treatment as simple as possible by the exhibition of few remedies, well selected.

"3. Bear in mind the possibility of aggravating existing pathological condition and introducing new ones by injudicious or too heroic methods of treatment.

"4. Remember that the benefit to be expected from remedies is generally offset or neutralized when a large number of remedies are exhibited at the same time.

"5. Try to remove the cause; this presupposes a careful study of the case, rather than a hasty prescription for this, that, or the other symptom.

"6. Do not forget that most medicines are two-edged swords; if a medicine does no good it is likely to do harm.

"7. Prescribe for conditions, not for diseases.

"8. When necessary, hit hard, but not too often.

"9. Watch constantly for symptoms that may be the result of remedies prescribed for the relief of other symptoms."

It may be said that the whole medical world has accepted the validity of the demonstration by Hahnemann of the increased activity of triturated or otherwise minutely subdivided drugs, and has abandoned the old views of mass action as strictly therapeutic. Of course

results can be often achieved by mass action, and good results, but these are not therapeutic by specific activities, but mechanical or chemical, as soporifics, cathartics, styptics, caustics, hydrotherapy, etc., etc., and are no more medicines, in the true sense, than is the surgeon's knife, or spectacles, or splints, or opening an abscess, or replacing a dislocated articulation. The fields of therapeutic medicine lie far deeper, and within the arcana of metabolism and what precedes or disturbs metabolism.

So, also, Hahnemann's single remedy and minimum dose have been accepted with practical unanimity by all schools of medicine. The question today is, not how much the patient will bear, but how little will suffice; and, not to make up shot-gun prescriptions in the hope that *something* will hit the case, but to find out what will precisely hit the case, and use only that.

And even the law of similars has been largely incorporated, as a method if not a law of nature, in the practice of all schools, and especially of the dominant school. Nearly all the newer medicines (excepting coal-tar products, and even the older of these) in the old school repertory are directly derived from the homœopathic Materia Medica, and used precisely in accordance therewith. I might cite Hepar as an exmaple, but any list of new remedies will demonstrate this fact. It is not so much the *game* as it is the *name* that is objected to, and we have authority for saying that "a rose by any other name would smell as sweet," and a conglomeration secundum artem of the old pre-Hahnemann days would taste as villainous and act as badly by any other name than "Stinking Pills," and the like, if still administered, which is fortunately not the case. In this case the whole system has gone by the board.

There are but two obstacles today in the way of a general acceptance of the law of similars, and these are, in the first place, the misunderstanding of the homœopathic law of cure, and in the second place, an erroneous view of biology which is only recently being displaced, after enormous research and the labors of thousands of investigators of the highest ability, by newer and more correct views of this subject, which, of necessity, must lie at the base of any system of medicine. And these two subjects are closely inter-related.

It was the recognition of this law of inter-relation between biology and drug-action which produced the great law of homœopathic therapeutics, and, strangely enough, this was worked out by Hahne-

mann in a day in which true scientific biology had not even begun to exist.

It is marvelous, perhaps the most marvelous of all the works of this extraordinary man, that he was able to seize upon this great biological principle, almost by a sort of prescience, when its laboratory and pathological and physiological significance was not possible to be suspected. But it was the result of a most rigid and persevering use of the true principle of Baconian reasoning by induction. The problem admitted of no other solution, when all its factors had been stated, and Hahnemann dared to plant himself on this immutable law, and wait for the slower feet of chemical, microscopical, and biological science to reach and demonstrate the facts. It is only within a very few years past that this has been possible, and it is with these facts that I am endeavoring to deal in this paper.

Hahnemann did not announce the homœopathic law of cure as the only law of cure, nor did he exclude any of the other agencies of cure unless superseded in efficacy by some known homœopathic medicine. He was the least bigoted of all medical men, because he was the largest and broadest-minded, and the hardest student and the most experienced of all medical men.

He demonstrated by hard work what others dreamed and speculated about; he disproved by fearless investigation what others accepted by faith and ignorant superstition, and in breaking down the sacred barriers of two thousand years of false theory and sacrosanct medical tyranny, he never aimed to set up other like barriers around his own creed and teachings. He called upon the world to prove and demonstrate for themselves, and the world of his day, the official, the hierarchic medical world, went off with its thirty pieces of silver, and hanged itself, and cursed him with its last gasp. In those days they fought each other with fire; in these days they do it by insinuations.

Hahnemann did not describe Homœopathy as the only law of cure, but as the only *dynamic* law of cure. The older school failed to note this, and asked why a brickbat, or a purge, or a meat ax, or an opiate might not also be dynamic. But they are not, they are chemical or mechanical, but not dynamic.

From the days of Hippocrates it was announced that there was, in or of the living body, a spiritual restoring essence or principle, which he called "Physis," in the management of which the art of the physician consisted. This art could, he held, be only obtained

by the application of experience, not only to disease at large, but to diseases in the individual. He strongly deprecated blind empiricisms. How strongly his mind revolted against the use of charms, amulets, incantations and such devices, appears from his writings; and he has expressly recorded, as underlying all his practice, the conviction that diseases must all be scientifically treated as subject to natural laws. He did not remain inactive in the presence of disease, he was not in any sense an "expectant" physician; as Sydenham says, his practice was "the support of enfeebled and the coercion of outraged nature."

If Hahnemann had patterned himself, which he did not, on any ancient authority, he could not have done better than to use Hippocrates, whose characteristics Adams summarizes as follows: "Conciseness of expression, great condensation of matter, and disposition to regard all professional subjects in a practical point of view, to eschew subtle hypotheses and modes of treatment based on vague abstractions."

These were pre-eminently the characteristics of Hahnemann, and by reason of their dominating influence upon his whole life, he subjected himself to vindictive, bigoted, and unchangeable hatred and fury, which followed him through all his days of poverty, through all those of his wonderful triumph, and which were not stilled even at his grave. Malevolence based on ignorant misconception is almost ineradicable, for pride perpetuates the misconception, while consistency perpetuates the malevolence.

Hahnemann held that all diseases are subject to natural laws; that they must be dealt with scientifically instead of empirically; and he complained bitterly that medicine as taught in his day was a mass of theories and hypotheses, that a false philosophy had usurped the place of clinical experience, and that the whole practice was irrational and confusing.

He demanded the recognition of the curative power of nature in living organisms, which only required to have the disturbing factors of disease, perverted functions leading to morbid products, removed or neutralized, when nature itself would take charge of the organism, and health would be again resumed.

The only way to acquire this knowledge, he held, was by clinical experience, and that an ocean of hypothesis was not worth a drop of proof; the classic names of diseases were only traps to disguise the study of existing conditions, and the conglomerations of drugs in a

single prescription were an absolute barrier to any sane and efficient knowledge of their scope and power, and prevented any rational therapeutic use of the available means to meet and reverse diseased conditions. That theories of so-called pathology and physiology were no sure guide to the dynamic treatment of diseases, because between a normal physiology and the same perverted into a pathology, factors were encountered which belonged to the same categories as those which embraced the so-called "vis medicatrix naturæ," the physis of Hippocrates, which word itself is the basis of the term physiology, and which latter only exists by its presence, and that this physis, immaterial and dynamic, constitutes the wide difference between protoplasm living and protoplasm dead, between life and death, and between health and disease. And here came in his great generalization of dynamic medicine.

This, *physis* of Hippocrates, the "Vis Medicatrix Naturæ" of Cullen, has had many names, which reflect the divergent views of many schools, while all recognizing the efficient principle itself. Hippocrates called it the physis: Celsus called it *the effort of nature;* Whytt, *the sentient principle;* Erasmus Darwin, *Sensorial energy;* Rush, *occult cause;* Culpepper, *vital spirits;* Broussais, *vital chemistry;* Chapman and Hunter, *vitality;* Combe, Good, Thatcher, and Thomas call it *living principle, living powers* and *powers of life;* and Hooper in his Medical Dictionary terms it the *vital principle.*

It is the principle of vitality, then its absence, its perversion, or its disturbance is the cause of devitalization; if complete, of death; and, if incomplete, of disease. And, if existent at all, it must be dynamic, and not material; it must be physiogenetic, or pathogenetic, as it varies, and not physiological or pathological, because, by its very terms, it produces and maintains, or by its partial failure, exhibits the various and significant phenomena which we call physiological or pathological. It is, indeed, call it by what name we may, the intelligence, the power, the directive and controlling morphological and dynamic "man behind the gun," and with this agency of life, disease and death Hahnemann dealt as the true scope and field of the physician.

Pathology is too apt to become pathography; we are too apt to confound tumors and warts and the like with what produced them; for in every cancer there was a time when there was no cancer, but where a cancer was bound to develop, and so of disease in general. Before a soldier turns back in battle and runs away in ignominious

flight, his eyes begin to wander to the rear, and Hahnemann caught him in the act, and recognized that that was the way to keep up a full company, instead of relying on the provost guard back at the rear, with their bucks and gags and spread-eagles and wooden horses and bread and water for six weeks in solitary confinement.

He didn't so much want to see the wheels go 'round as to control what made them go round, and even if he couldn't then see precisely how they went around he still knew that he had the key of the problem, and by turning on or off, or modifying this dynamic factor, he could make the machine run fast or slow, and he could take out a tooth or replace a broken gear while still holding one hand securely on the throttle.

That was business; that was science and art.

But the slowly emerging scientific world was not satisfied that this dynamic agency ran the complex machine at all. It found numbers of wheels and levers and batteries and other contrivances; of cells and nuclei; of muscles and nerves and blood-vessels; of levers and organs of multifarious sorts; of hearts which continued to beat after death for a while; of eyes which continued to wink for a while; of tails which continued to twist for a while; and even could cut minute living organisms into pieces, and then see each fragment rebuild an entire organism and march off a band of brothers. It was easy; it was chemistry; but what was that?

It is true that mind was found, but so was bile; and biology, ever seeking to materialize and simplify, ever made greater complication in the process, and only within very recent years have we been able to run out all these sophisticated clues and find that every one finally runs into a cul-de-sac, from which there is no explanation or escape.

But it must be borne in mind that the new discoveries in biology which deal with these dynamic agencies are not philosophical, or metaphysical, or hypothetical, or mere theories, but are facts as hard-headed annd definite, as incontrovertibly demonstrated, as the facts of chemical affinity or the laws of light and electricity.

Those who look backward as far even as the days of Huxley, and Tyndall, and Herbert Spencer, and John Stuart Mill, and draw their inspiration and knowledge from these abandoned authorities, are as hopelessly in the dark as regards biology as an astronomer who only knew astronomy up to the time of Ptolemy, or a chemist whose chemical investigation ceased with Paracelsus. The whole world of

biology has opened since those men formed their now exploded theories, for in their day the very materials even did not exist. Micro-biology, embryology and scientific psychology did not exist when these men wrote, and outside these sciences there is and there can be no true biology. It is not a difference in degree; it is a difference in kind. It is not a difference in detail; it is a difference *in toto*. And with this great advancement we shall understand what was the genuine *dynamic* principle with which Hahnemann dealt, and its entire pertinence and full effectiveness will be clearly seen and scientifically established for all time to come.

Man appears to be a congeries of different organs, each of these is a congeries of cells, each cell appears, or did appear, to be a unit, and the base was protoplasm, and this protoplasm appeared to be a sort of chemical jelly, complex in structure, it is true, but not especially so, and the inference was that if we could manufacture such a jelly it would immediately manifest the properties of life, just as a mixture of oxygen and hydrogen, combined by the shock of an electric spark, manifests the properties of water.

But later investigations have clearly demonstrated that protoplasm is not a chemical substance but a mechanical structure, and that its differences do not depend upon its chemical proportions but upon its mechanical organization. Living protoplasm is a living machine, whether it be in the form of a polycellular body, a single cell, a nucleus, its granular or organized chromatin, or even its mere constructive plasms, or hypothetical ids, even living protoplasm is already a complete working machine, as complete as a sewing machine or a cotton gin, and different protoplasms differ from each other just as sewing machines differ from cotton gins. As that eminent biologist, Professor Conn, clearly states the case: "If the physical basis of life had proved to be a chemical compound, the problem of its origin would have been a chemical one. . . . But now that the simplest substance manifesting the phenomena of life is found to be a machine, we can no longer find in chemical forces efficient causes for its formation. Chemical forces and chemical affinity can explain chemical compounds of any degree of complexity, but they cannot explain the formation of machines. Machines are the result of forces of an entirely different nature. Man can manufacture machines by taking chemical compounds and putting them together into such relations that their interaction will give certain results. Bits of iron and steel, for instance, are put to-

gether to form a locomotive, but the action of the locomotive depends, not upon the chemical forces which made the steel, but upon the relation of the bits of steel to each other in the machine. So far as we have had any experience machines have been built under the guidance of intelligence which adapts the parts to each other."

The first living protoplasm then is a manufactured product, as a locomotive is, and so are all its successors today. What are called the blind forces of nature have no part to play in the formation and development of living things.

Professor Ward, of the United States National Museum, speaking of Charles Darwin, says: Darwin looked upon plants as *living things*. He did not study their forms so much as their *actions*. He interrogated them to learn what they were *doing*. The central truth, towards which his botanical investigations constantly tended, was that of the universal activity of the Vegetable Kingdom—that all plants *move and act*. He has, so to speak, *animated* the vegetable world."

Indeed, the dividing line between the animal and vegetable has at last utterly broken down in the light of our study of microorganisms. For example, almost the lowest in rank among vegetable organisms are the algæ, our common sea-weeds. But at certain times, for reproductive purposes, these weeds, floating at the will of the waters, develop out of their inert strands and expel vast numbers of zoogonidia or swarm-cells, which are, in fact, not cells at all, but naked protoplasmic bodies of extreme minuteness. But these animated bodies are not at the beck of wind and wave, for they are provided with intelligently directed swimming organs, cilia or often flagella, by which they swim about, with the precision and certainty of fishes. "These cilia," says Binet, "always act in union during locomotion, and the direction which the animal gives to them determines the direction in which the animal wishes to move."

These zoospores, like other aquatic animals, swim about in the water, but after a time (the female cellule having become motionless) they gather about the female, sometimes a hundred of them, and each with its anterior flagellum gently strokes the female, "they perform upon it," says Binet, "real acts of feeling, the object of which is evidently to provoke in the female zoospore a genital excitation, as what follows will prove. It happens at times that several of the male zoospores quit the ranks and make off; they are

immediately replaced by others who employ their filaments in a like manner, to stroke the female."

Says Balbiani: "A higher instinct appears to dominate all these tiny organisms; they seek each other's company, chase each other about, feel here and there with their cilia, adhere for a moment or so in an attitude of sexual coition, and then retire, soon to begin anew. These singular antics often continue for several days."

From highest to lowest, the teaching now is that every living organism is a psychical and intellectual entity. As Binet says: "By the aid of exact data we have shown that in both vegetable and animal micro-organisms phenomena are encountered which pertain to a highly complex psychology, and which appear quite out of proportion to the minute mass that serves them as a substratum."

Moebius recognizes that psychological life begins with living protoplasm. The lowest forms manifest memory and the sense of fear. Binet says: "There is not a single ciliate infusoria that cannot be frightened, and that does not manifest its fear."

As Romanes remarks, the power of choice may be regarded as the criterion of psychical faculty. Indeed, there is no other test than the manifestation of choice, for that is what the term *intellect* means, the power of choosing between.

Irritability, so-called, is itself psychical, and as Binet says: "Every micro-organism has a psychic life, the complexity of which transcends the limit of cellular irritability, from the fact that every micro-organism possesses a faculty of selection; it chooses its food, as it likewise chooses the animal with which it copulates."

Indeed, its power of choice seems to be only limited by its capacity to execute, for here we find emphatically that function precedes structure; that the psychical precedes the physical; the invention precedes the reduction to practice.

LET US TAKE THE AMŒBA, FOR EXAMPLE.

This naked, often microscopic, lump of protoplasm, of which our phagocytes are types, is devoid of any fixed executive or physical organs; it is a living lump of simple protoplasm, doubtless construted as a machine, but with all its physical parts interchangeable, and in a state of absolute fluxion, as it were, subject only to the mind and will of the animal. How do we know that it is physically devoid of organs? Because we can demonstrate that this little lump of protoplasmic jelly, never for a minute the same in shape, can be made to

put out legs to creep on, hands to grasp with, a mouth to receive, a gullet to transfer, a stomach to digest, an excretory apparatus to cast off the indigestible refuse, at any part of its entire bulk, showing clearly that it manufactures its organs for the occasion out of any part of its own substance. Yet it performs all these actions and manifests desire, purpose and satisfaction, precisely as a hungry man does, and exhibits them by the same sort of phenomena. Says Binet, "While observing an amœba the protoplasm is seen to undergo modifications of form and to throw out pseudopods, either for the purpose of effecting a change of position, or to seize alimentary substances. The protoplasm accordingly seems to be the sole agent of all these phenomena."

I ask you to note what Carpenter says of the obvious volitional acts of this living lump. "The shapeless mass puts forth one or more finger-like prolongations, which are simply extensions of its gelatinous substance in those particular directions; and a continuation of the same action, first distending the prolongation, and then (as it were) carrying the whole body into it, causes the entire mass to change its place. After a time another prolongation is put forth, either in the same or some different direction; and the body is again absorbed into it. These changes seem to be connected with a movement of the semi-fluid particles in the interior of the mass, of which a current may be observed to 'set' in the direction wherein the protrusion is about to take place, *before the surface shows any projection.*" In this animal or others of its type, the Actinophrys, for example, in which the pseudopods are more definite in form, though apparently homogeneous with the animal in structure, these temporarily manufactured arms grasp a food particle, perhaps a bit of mollusc, and gradually draw it in to the surface of the body, the arms fusing into the body in the process. But action does not then cease; by a flowing from behind to the front the particle slowly makes its own gullet, then its stomach where is digested, and, finally, by a reverse process, a passage by which the debris is carried out and discharged, and the animal is ready to go hunting for another meal.

Here we see that the will of the animal has acted upon the substance of the animal and made it do its work by the means at its disposal, which doubtless it is able to modify and perfect by practice, since it obviously can create or manufacture these means at will. In higher structures, the hydra, the octopus, the beast of prey and man, cells are multiplied and organs are permanently differentiated

out, but who can doubt, with the examples before us, that mind is still the controller, the director and the creator. Modification is creation, in fact, and the one demands the other as its corollary.

Consider what happens when you stop to pick up a pin in the street. Seeing the pin is an act of consciousness, and we will grant that stopping (which is one of our habitual acts), may be reflex. But now there ensues a most complex set of separate actions, far more complex than one could, *a priori*, believe, to be possible. The trunk is bent forward, the arm projected, an exact distance measured, the thumb and finger are bent like the jaws of a pair of pliers, they must open and close precisely at the proper distance and proper instant, and the processes must then all be reversed and the walk resumed. Now, consider the different nerves involved, and parts of nerves, and their various connections, the multifarious muscles and fascicles of muscles involved, which must all act with differential movements, and all the other complicated structures involved, all which must co-operate by individual actions blind in themselves, but directed to an intelligent end, and you will be astonished in making out the details. All that the mind has apparently done—that is, your conscious-mind—is to desire and direct the bodily mechanism to pick up the pin. The details belong altogether to the sub-conscious, which must at once prepare and arrange the necessary mechanism and guide and direct it to the indicated purpose. What a man had for his dinner may furnish the steam, but there is an obvious need here of an engineer, a mechanic, an operator of almost miraculous skill and ability. There must be such a central control, a pervading psychism, an all-efficient intellectual agent, which, unconsciously to us, operates all these individual parts and organs, with movements and inhibitions of a nicety which our conscious mind cannot even comprehend, each of these parts and organs working to no purpose of itself, each indeed altogether useless of itself, or worse than useless, but all combining, like soldiers on drill, to bring about one common and intelligent result, and carry out the details necessary for one intelligent act of the will. Think of some one with a Saint Vitus' dance undertaking such a task.

In this case the man, with all his differentiated and differently functioning organs and structures, and plus a mind, does substantially what the amœba, without any differentiated and differently functioning organs and structures, does, for this animal body is also plus a mind. When the mind ceases, at death, with that body life ceases,

and chemistry begins. The bond of life is universal, and its source and motive power are intellect and volition.

Says Sir John Herschel: "Whenever, in the material world, what we call a phenomenon or an event takes place we either find it resolvable ultimately into some change of place or of movement in material substances, or we endeavor to trace it up to some such change; and only when successful in such endeavor do we consider that we have arrived at its theory. In every such change we recognize the action of FORCE. And in the only case in which we are admitted into any personal knowledge of the origin of force, we find it connected with volition, and by inevitable consequence with *motive*, with *intellect*, and with all those attributes of mind in which and not in possession of arms, legs, brains and viscera, personality consists. . . . Constituted as the human mind is, if nature is *not* interpretable through three conceptions, it is not interpretable at all."

So Romanes says: "Throughout this universe of infinite objectivity there is unquestioning evidence of some one integrating principle, whereby all its many and complex parts are corelated with one another in such wise that the result is universal order. If we take any part of the whole system, such as that of organic nature on this planet, it appears to be instinct with contrivance. So to speak, whereby we tap organic nature it seems to flow with purpose. Now these large and important facts of observation unquestionably point to some one integrating principle as pervading the cosmos; and if so, we can scarcely be wrong in supposing that among all our conceptions it must hold nearest kinship to that which is our highest conception of an integrating cause, viz., the conception of psychism. Assuredly no human mind could either have devised or maintained the working of even a fragment of Nature; and, therefore, it seems but reasonable to conclude that the integrating spirit of the whole—the Spirit, as it were, of the Universe—must be something which, while, as I have said, holding kinship with our highest conception of disposing power, must yet be immeasurably superior to the psychism of man."

To quote the words of Professor Barret, of Dublin, president of the Society for Psychical Research: "What science has now established is that the universe is a cosmos, not a chaos, that amidst the mutability of all things there is no capriciousness, no disorder; that in the interpretation of nature, however entangled or obscure the phenomena may be, we shall never be put to intellectual shame."

I have not directly referred to the great questions affecting the sub-conscious department of mind, the reservoir, the store house, the workshop, the classifier, arranger and presenter of all the consciousness of the past, and the guide and controller of all the consciousness of the future, and of the living processes of the body as well, the telephone exchange for telepathic currents from outside, the medium of memory, of inspiration and of genius, simply because to even indicate the scope and field of this great mental and psychological mechanism of every living creature would far transcend the limits, not merely of a paper, but of a volume. Physicians will find much of this summarized in Schofield's Force of Mind, a book by a physician and for physicians, and of startling importance to every true physician.

Nor have I referred to the phenomena of double or multiple personalities, which have opened a new world to the psychologist. Says Sir Oliver Lodge: "I do not myself hold that the whole of any one of us is incarnated in these terrestrial bodies; certainly not in childhood; more, but perhaps not so very much more, in adult life. What is manifested in this body is, I venture to think likely, only a portion, an individualized, a definite portion, of a much larger whole."

Nor have I considered the phenomena of hypnotism, so-called, so simple for those who pin their faith to names, and so far-reaching and complex to those who deal with things, and which phenomena have brought forward the mental powers, the dynamics of psychology, as never before, and as now undisputed by all men of science.

Nor the phenomena of thought-transference or telepathy, now established, but so long derided. These phenomena have finally closed the controversy about the mind as a material secretion of the brain, for they are manifested when there are no brains to secrete, and across voids where there is nothing to transmit, for the "vibration theory" has broken down, unless we give to these vibrations an intelligent power of choice at their termini, which is far more than materialism could accept without self-destruction.

Nor have I referred to the almost miraculous intellectual and dynamic processes manifested in reproduction, even among the very lowest microscopic living forms, far, far below cells. In the language of the late, lamented Professor Conn, we are dealing now with plasms instead of with cells and nuclei, and these plasms are not the chemical jellies of Huxley and his age, but mechanical organizations, true machines, and machinery, built up as machines under the direct action of intelligence of the highest order, and

manifesting themselves by a continuous series of actual miracles, transcending even the wildest superstition.

Nor have I alluded to heredity, that astonishing power which reproduces a peculiar drawl in the speech of a great-grandchild, after skipping two, three or a dozen generations, or in a nose or ear of peculiar shape, or a mole or a spot, or some other trifling peculiarity, utterly inexplicable on any physical basis of life.

Nor of birth-marks, those strange stigmata which are impressed on the corresponding part of the fœtus for life, by a temporary mental impression of intensity, on the part of the mother. What physical eye was there to see just where to place it? What blind blood or nerve to furnish the means of placing, or of what to place?

And so of the other phenomena of life and mind, all, all dynamic, all, all mental and psychical and not physical; but mental and psychical acting on and controlling, and, indeed, creating the physical form and maintaining it in health and ready and willing, nay eager, the great physis of Hippocrates, when interrupted by hostile agencies, to again resume power and control; to bring back the bloom of health, brightness to the eye, tone to the heart, strength to the muscles, firmness to the tissues as soon as these anti-dynamic, but themselves dynamical agencies of perversion have been dynamically encountered and controlled by a stronger psychical dynamism, which Hahnemann taught us how to manage, even by drugs, and how to recognize. We may not be able to follow out the true dynamic pathology of every disease antecedently to its visible physical deposit. But by the very terms of the problem, which are dynamic, we may know, we must know, that every dynamic interruption of nature's normal course must manifest itself by phenomena. We call these phenomena symptoms, a much abused word, but how much simpler it would all seem if we recognized them as phenomena. Every disturbance is characterized by phenomena; we would never know there was a disturbance if it were not for the phenomena; since we do not know what the disturbance really is, aside from its phenomena, and while we take quicker note of peculiar phenomena, laying less stress on those which are more usual and common, yet it is obvious that there are for us no phenomena, no symptoms of greater relative magnitude, and none of less, so that, as Hahnemann so clearly pointed out, it requires all the phenomena, taken together as a whole, to therapeutically locate and determine the nature and character of the disturbance, in the only way we can locate and determine these and provide for their correction; as soon as corrected the

squeaking will cease, the inarticulate cries of outraged and diseased nature will be silenced, and the great dynamic *physis* will again resume its sway with undiminished energy and harmony, and the living machine will have been overhauled, repaired and put in good running order again.

What I have sought to show is that advanced modern biology goes hand-in-hand and with equal step, along with old Samuel Hahnemann, of sainted fame, and far in advance of his age; that this human microcosm of ours is an epitome of the divine macrocosm of the Universe; that the creation, development and maintenance of life and health are dynamic; that while the forces of life build up against the processes of dead chemistry, as soon as life ceases chemistry resumes its interrupted sway, and the organization breaks down into the ordinary and simple chemical compounds of non-living matter, and is revolved into that matter from which the forces of life had rescued it for a time; that the non-physical or dynamic in disease precedes and determines the physical and pathographical, and that this intervening period is the true field of the physician and of his drugs and medicines, when used dynamically to meet dynamical changes; that all these factors are, nay, must be, subject to laws, and that medicine itself must have its laws as has everything else in the order of nature, and that these laws, too, must be uniform and harmonious.

To quote Professor Stirling, of Edinburgh: "This universe is not an accidental cavity in which accidental dust has been accidentally swept into heaps for the accidental evolution of the majestic spectacle of organic and inorganic life. That majestic spectacle is a spectacle as plainly for the eye of reason as any diagram of the mathematician. That majestic spectacle could have been constructed, was constructed, only in reason, for reason, and by reason."

The life with which the physician deals is the same life as that of the psychologist, but to him it is more, for we bring in our hands hope and healing to the bed of suffering and pain, and we handle also the scientific mechanism of adjustment and reinstatement. To accomplish this we must learn what life really is:

> "That life is not as idle ore,
> But iron dug from central gloom,
> And heated hot with burning fears,
> And dipt in baths of hissing tears,
> And battered with the shocks of doom,
> For shape and use."

THE PATHOLOGY OF THE PUERPERIUM.

R. E. TOMLIN, M. D., PHILADELPHIA.

To many of the G. O. P.'s the above title is either a bugaboo or nightmare. As soon as the subject of pathology is mentioned in connection with almost any ailment, and more especially with midwifery, hands go up, and hearts sink as the dear G. O. P.'s look askance at the speaker. It is the intention of the writer to review the facts from the standpoint of a member of the rank and file rather than as an exclusive specialist which he is not.

The subject matter of this essay may be said to consider pathological conditions in general, present before conception and such as may arise during the interval, and at term. It may be further stated here that the usual methods of text book writers will not be followed, even though no originality is claimed for what is said. It seems well nigh superfluous that the attention of the great body of practitioners needs to be called again and again to the fact that the really normal puerpera is not met in practice as frequently as believed.

In relation to science in general Professor Huxley said: "Science is, I believe, nothing but trained and organized common sense, differing from the latter only as a veteran may differ from a raw recruit. The vast results obtained by Science are won by no mystical faculties, by no mental processes other than those which are practiced by every one of us in the humblest and meanest affairs of life. The man of science, in fact, simply uses with scrupulous exactness the methods which we all, habitually and at every moment, use carelessly." So we claim that it is not enough for a physician to know that a woman is pregnant, and that in the usual allotted time will give birth to a child, and if she does not, and it then appears to him she cannot, why to call in a specialist, who sees at a glance, very often, that pathological conditions have been present, possibly even before conception, but were not recognized, consequently not treated, and the health of both mother and child compromised, even if their lives are not sacrificed. A physician attending midwifery cases should be well enough informed in the pathology of the puerperium, to recognize possible, as well as evident pathological lesions at the earliest period consulted after conception has taken place. Besides the usual examination of

the heart and kidneys, he should examine for evidences of tuberculosis, syphilis, gonorrhœa, enlargement of the thyroid gland, varicose veins, diabetes, pronounced anemia, chlorosis, disease of the mind or central nervous system.

Prof. O. Schaeffer, of the University of Heidelberg, says: "In the first place the development of the embryo is influenced by the life history of the mother and her physical constitution, and also by the state of health of the father. In the second place disease of the embryo may lead to conditions which are a source of danger to the mother during the puerperium, as for instance hydramnios, hydrocephalus and placenta previa."

When an affection of some organ or some constitutional condition exists which we know by experience will be aggravated if complicated by pregnancy, such as tuberculosis, and renal and cardiac disease, every reasonable prophylactic measure should be used even before the occurrence of pregnancy. In other cases again the object of prophylactic treatment is to prevent the establishment of certain conditions likely to arise during the puerperium from conception to delivery and convalescence.

A "Cardiac Lesion" becomes a disease directly the heart is no longer able to fulfill completely at every moment of life the demands made upon it which are essential for the maintenance of the functional activity of the organism. No other organ of the body can be similarly circumstanced—for other organs when diseased or threatened with such, may be rested, and for a time saved from all functional activity but this is not possible with the heart, as any cessation of its action would mean cessation forever. The moral is obvious. Every human being was once a child, was once an infant, so helpless that a brief period of neglect meant death; was once a fœtus maturing and ripening in its imprisoned home; was once an embryo, struggling to take on the shape of a man out of a mass of protoplasmic cells; was once a germ too small to be seen; was once seemingly nothing. Out of the great sea of apparent emptiness we came; to what ocean or sphere we float on the drfting tide of life who can tell. Before we were born other people lived. They had parents, of course. Their ancestry was the surest thing in the whirl of a thousand uncertainties. Where the beginning was, who knows! See Genesis i, 1. You are the link in this long chain that, at some time, had a beginning. The continuance of the succession depends on you. If you die childless, the

chain is broken, is ended. Whether the enormous importance of this fact impresses you or not, we are unable to tell.

The point here is this:

The best physical, mental and moral types of men and women are slow to reproduce their kind, and they aim to bring into the world the fewest children possible; while on the other hand, those with what may justly be called pathological conditions of the physical, mental and moral natures are stocking the land with mothers and children, diseased and illy fitted to live, and outstripping the desirable classes. It is true that intelligence and refinement are powerful influences in keeping the family small, for when a wife knows how to prevent maternity she will avail herself of that knowledge, and with money to spend on fashionable practitioners parents will limit their duty setting aside the divine law of propagation and inviting the just recompense of many and serious pathological lesions, the direct result of unnatural practices, and interrupted physiological functions. In normal conditions every woman should bear children. This is an eternal truth of nature, and no one can afford to ignore it. Normal conditions are naturally marriage, health and fitness. Child-bearing is never dangerous unless pathological lesions are present, or the woman is extremely lazy, at least between the ages of eighteen and forty.

Disease should not be transmitted to offspring, and where the wife is suffering from any of the diseases previously mentioned, she should be under the care of a competent and conscientious physician. It must not be forgotten that the child is marked with the mental, nervous and physical character of its mother; and further, it is not necessary that disease be transmitted where curable, and where incurable suitable prophylactic measures adopted. Greatest among the proud mothers of the world are they who can boast of a speedy and safe delivery. Prof. Schaeffer says: "It is remarkable how very much more frequent eclampsia occurs in illegitimate births, even in those cases where the surrounding circumstances are favorable, so that the co-operation of some nervous factors cannot therefore well be excluded." Neurashenic and hysterical women should be kept from all irregularities in food and drink, because they tend to produce disorders during pregnanacy which may assume dangerous proportions, as excessive vomiting and ptyalism, etc.

Stimulated by its impulse to grow, which is said to be the most

potent force in life, the germ that bears the impress of a new being goes on steadily to its climax. It takes the best for itself, and is impoverished only when it can find nothing of a high quality to feed upon. The time is accurate to a day; but, as the date of beginning is not known, the termination cannot be fixed in any instance except the rarest. Nature is remarkably regular when her processes are not tampered with.

In the absence of antecedent pathological lesions the mother is without knowledge of what is going on, for the first month at least, and but for the absence of the menstrual flux would not know anything about her condition for several months more. It is true that many observers still claim that the nausea and vomiting of early pregnancy is physiological and need not be given special attention, while there are those who believe it to be more or less pathological. It is said that with a clear liver, and no bile odor in the breath, the woman being otherwise healthy, there should be no morning sickness. It is a known fact that where women pay ample attention to their health this condition is almost unknown. Many of the diseases of the puerperium are directly traceable to indiscretions in diet, dress, hygiene, etc., etc., leading in not a few instances to organic changes in kidneys, liver and other organs. Accidents of all kinds easily destroy the hope of maturing the fœtus in some cases, while in others they lead to serious complications in the mother. Nature's process at birth is perfectly safe. The bringing into the world of a child is a woman's most anxious transaction, and as the thought takes possession of her that she is to become a mother all else fades into insignificance.

The prospective mother imagines her life is to be put in jeopardy, especially if the offspring is her first, and dwells upon the long hours and severe pains to come. All fears should be quickly appeased where possible, and reckless bravado repressed. It is not good judgment to be bold and fearless while taking no precautions against the possibilities and all too frequent realities at this important time.

The prolonged convalescence, the chronic puerperal invalidism, the mortality of both mothers and children that is usually charged to the "Chastening Love of God," is but the ordinary result of stupidity and guilty ignorance. Preparing for the event that occasions so much concern is a far more logical thing than attempting to make patchwork out of disaster. The skill of a physician or the science of

modern practice cannot accomplish such a result unless the woman had correct habits of life before as well as during pregnancy, for nature has never yet chosen them as her exclusive agents. The best judgment and skill of a physician is most urgently required at the birth of the child, for it is at this period that so many serious and occasionally fatal results obtain. Pathological conditions of the birth canal are common sequences of imperfect or incompetent attendance. A prominent authority says: "To effect a speedy and natural delivery, good muscular development is essential, while healthy nervous stimulus must also be present, with sufficient general strength on the part of the mother to maintain muscular activity."

It appears well-nigh presumptuous to the writer to refer to the fact (which he has repeatedly observed in consultation cases) that there are physicians attending midwifery cases who are as lax and indifferent in their methods as were many of our medical fathers. Especially to be condemned by the profession is the class known as midwives, who are, as a rule, uneducated and therefore unfitted to assume the responsibilities of a capable accoucheur.

Since it was not the intention of the writer to consider the special pathology of the organs concerned directly with pregnancy, or dystocia, or the system at large, but rather to take a broad and general view of the varied factors that enter into cases of this kind, permit me to close this essay with "The Proposition of Health," as propounded by Prof. Webster Edgerly, president of Ralston University, of Washington, D. C., found on page 12, Book of Inside Membership, Ralston Health Club, 93d Edition, 1904.

Proposition of Health.

Health is the basis of the best physical development.

Health is the basis of the best mental powers.

Health is the basis of the best nervous system.

Without health it is impossible to enjoy life, to establish happy homes, to win true success, or to give to posterity that inheritance which God commands each generation to guard with jealous care.

The human body is like a garden. It is useless to the world when it does not receive proper care, attention and culture at the hand of man. Even the Creator will not save the garden when man neglects it. Duty to self and to the world requires that a reasonable, practical and sensible regime shall be adopted in the life of every intelligent human being.

A CASE OF APPENDICITIS IN A LARGE INGUINAL HERNIA.

ARTHUR W. YALE, M. D., PHILADELPHIA.

An essayist, living several centuries before the Christian era, once said, "Of the making of many books, there is no end." This is especially true of medical literature, and the subject of appendicitis has proved exceedingly alluring to professional pens. It is, therefore, with hesitation that the writer invites your attention to a case of this character, but it is because of its unusual nature that it is brought to your notice.

Mrs. M. came to the office suffering from what proved on examination to be a large inguinal hernia. In appearance it was a large pendulous tumor hanging down over the right thigh about twelve inches, and measuring about twelve inches in diameter. It sprang from above Poupart's ligament, about half way between the anterior superior spine of the ileum and the symphysis pubis. Upon examination two distinct nodular masses were felt, otherwise the tumor was soft and tympanitic.

Her history was as follows: She had been twice married, having borne six children by the first husband, and had the misfortune to have five miscarriages by the second. Twelve years prior to coming to the office she had been operated on by an eminent old school surgeon for the radical cure of Inguinal hernia of comparatively small size. The operation was successful, and the gut stayed in place until five years ago, when it began to protrude, and the hernia gradually increased in size. Recently every few months the patient had severe attacks of sharp pain in the hernia, but the inguinal ring seemed large; there was no strangulation, the bowels moved regularly during the attacks of pain, and there was no vomiting. After suffering in this way for about a year the patient had a very severe attack of pain, lasting several days and completely prostrating her. She then gave consent to an operation.

She was removed to a hospital, and, after the usual preparation for laparotomy, taken to the operating room. An incision was carefully made through the hernia, and it was found that the intestines were adherent to its walls, and that numerous bands of adhesions ex-

isted among the intestines. The inguinal ring was large enough to admit several fingers, and no adhesions were found within a couple of inches of the ring, this being lined, as was the entire sac where adhesions did not exist, with the glistening peritoneal membrane. A small quantity of peritoneal fluid was found in the sac, this latter containing a large amount of small intestine, and probably ten inches of the large bowel. Having broken up the adhesions near the centre of the mass of intestines, imbedded in adhesions was found an elongated, thickened appendix. As the operation was performed between attacks of pain, no acute inflammation was present, but the numerous adhesions, the burying of the appendix, and its thickened walls, all pointed to the fact that the patient had suffered from numerous attacks of appendicitis. The appendix was removed by the usual method, the bleeding points where large adhesions had necessitated cutting, were tied, and the intestines with much difficulty replaced in the abdominal cavity. The opening was then closed layer for layer.

The foregoing record briefly outlines the history of a case of appendicitis which the writer believes to be unique, and which should impress upon us the lesson that acute attacks of pain, located among the abdominal viscera, may point to appendicitis, although the proverbial tenderness at McBurney's point may be lacking.

REPORT OF THE

SECTION OF PÆDOLOGY.

The Demands of Pædology in the Progresss of Medicine, by Anna D. Varner, M. D.
My Paralyzed Baby; a Unique Case, by Mary Brewer, M. D.
Convalescence, by Edward Steel Haines, M. D.
The Observation of Symptoms in Children, by Julia C. Loos, M. D.
Typhoid Fever in Children, by A. S. McDowell, M. D.
Marasums, by F. L. Muth, M. D.

THE DEMANDS OF PÆDOLOGY IN THE PROGRESS OF MEDICINE.

ANNA D. VARNER, M. D., WILKINSBURG.

There is no other field of medicine that requires the attention alike of general practitioner and specialist, be he gynæcologist, surgeon, oculist or aurist, as the diseases of children.

No other part of the work is more important. To promote health in a child is like laying a firm, strong foundation for a large building. The whole superstructure depends upon the strength of the foundation. The health of an adult depends a great deal upon his physical condition in early childhood.

Another reason why pædology is such an important study is because of the exceedingly high mortality in children. In our large cities one-tenth of all infants born die during the first year, one-third of all deaths are in children under two years of age, and 45 per cent. under fifteen years.

The diseases to which these children succumb are of such a nature that in the present state of our knowledge prevention is possible. According to Holt, who made 726 consecutive autopsies in children under three years of age in the New York Infant Asylum, 322 deaths were due to pneumonia, 56 to pulmonary tuberculosis, 189 to diseases of the digestive tract, 35 to diseases of the brain, 36 to marasmus, and the remainiing 88 to various other causes. We find very much the same proportion in private practice, either in the city

or country, so that in any locality under any conditions, if the diseases of the respiratory tract, and those due to digestive disturbances and faulty nutrition were deducted from the sum total of all diseases, less than one-third would remain.

Remember, I am referring now to the mortality of infants. After five years of age the acute contagious diseases are the most fatal.

It is interesting to note the chief etiological factors concerned in these diseases. Omitting malformations and accidents connected with birth, diseases in infancy are due largely to these four causes: Inheritance, infection, exposure to cold, and conditions interfering with nutrition. The last mentioned includes improper food, unhygienic surroundings and neglect.

Over against those appalling figures which prove that more than one-third of the human race die before reaching maturity place such causes as improper food, impure air, infection, neglect, etc., and tell me, is not prophylaxis the chief requirement in the advancement of pædology?

True, in acute infectious disease great progress has been made in prophylaxis. The sanitary conditions have been improved and quarantine laws enforced. Scientists are wrestling with the problems of germ life, serum therapy, and the purifying of our water supply.

Some effort has been made to control the spread of tuberculosis, very little to prevent syphilis. Surely the chronic infectious diseases demand more effort of the profession to suppress them than even the acute diseases, because they are more disastrous to humanity. Tuberculosis is widespread and usually fatal. Syphilis is more frequently transmitted from parent to child than any other disease. They are both practically incurable. The best way to control them is to prevent them: the best time is childhood; the best means is to educate the people how to live so as to avoid contracting them.

But the prevention of the so-called germ diseases is not all that is to be considered by the profession in the future. Germs do not multiply on good soil.

They are making some very interesting tests at the Homœopathic Hospital at Pittsburg. They are taking cultures from the hands of the operator, the assistants, the nurses, and the field of operation just at the beginning of an operation after the most rigid antiseptic preparation, and they are proving over and over again that it is the patient's resisting power and not the absolute absence of germs that

prevents many a fatality there. Suppose ten people are exposed to infection and only one infected, then it is obvious that the *most important way* after all to prevent disease is to increase the resisting power of the body. This brings us to the chief fundamental cause of disease—poor nutrition.

If, as we are told, protoplasm is the basis of all life, then this protoplasm contains the secret of the power to resist disease. Each cell is composed of nutrient matter, living matter, and formed matter. In health there is a sort of fixed proportion between these component parts. In old age the formed matter exceeds the nutrient. From maturity to old age they are equal, but mark you, in childhood the nutrient far exceeds the formed matter. It *must*, if a child's body is to be kept in a healthy condition and grow at the same time. I believe that the secret of vitality and the power of resistance lies in this ratio of proportion between the nutrient and formed matter. So you can readily see that anything that changes the quality and quantity of the nutrient matter, will not only decrease the resisting power of the body against germ diseases, and increase the predisposition to hereditary diseases, but will prove the starting point to digestive troubles and various other maladies which may follow the victim through life.

Nutrition, then, is certainly the most important study in pædology, and the high death rate in childhood will not be materially decreased until this subject receives more attention from the profession. No young woman's education should be considered complete until she has a wholesome practical knowledge of the duties required of her as a wife and mother.

No one would entrust his horse to the care of a man entirely ignorant of horses. A man could not be expected to run an engine who never was on one in his life. Yet this most delicate bit of human mechanism—a new-born babe—is oftimes at the mercy of an ignorant, indifferent woman. If the child be delicate no wonder it meets with disaster before the end of the first year.

I wish especially to call your attention to the need of reform in our present common school system. From six until sixteen years of age the majority of children spend half their waking hours during the winter months in the school room. Many a child owes his ill health to poor ventilation, long hours of confinement, night work, and the worry and excitement over examinations. Many nervous disorders and diseases of the generative organs in women are due to over-

taxing themselves in school at the time when the menses are being established. Side by side and of equal importance with development of the mind in our public schools should be the development of a strong physical body. To this end the following suggestions are offered:

A physician who is especially interested in children on every school board throughout the State.

Each teacher required to have a thorough practical knowledge of hygiene, the laws of health and prophylaxis.

Each child upon entering school to present a certificate from his physician at home stating condition of health, hereditary predisposition, etc.

Physical instruction by competent teachers in each school.

Physical exercises and class work regulated to suit the condition of each child, so that nervous, delicate children may not be required to do so much work as the more vigorous.

No night work until after twelve years of age.

No examinations at stated intervals which so many children anticipate with nervous dread.

School duties lightened for girls at puberty.

A course of practical lectures delivered separately to the boys and girls in the high schools, embracing the laws of health, nutrition, prevention of tuberculosis, syphilis, etc.

Modifications might be made to render the scheme more practical, but it will not be long until some course must be adopted to prevent children breaking down during the public school course. True, a beginning has been made. Physiology has been taught in an imperfect manner for some years. In Philadelphia a physician has her office in the Girls' High School building, and spends her entire time looking after temporary ills of those 2,800 girls. In New York City one of the teachers in the high school is a physician, and gives practical lectures on physiology and the laws of health. In both cities the school children are examined by physicians at stated intervals for incipient contagious diseases.

Even the infants in our large cities are faring better than in former years, with the fresh air fund, pure milk and free ice for the poor. These reforms must be encouraged, insisted upon until the children in all our towns and cities enjoy the same privileges.

You will notice that the greatest progress in prophylaxis has been made in the prevention of contagious diseases. In the laboratory

they are finding a germ for almost every malady and a serum to antidote it.

It is not my purpose to belittle the work of any scientist, but the profession needs to be careful that in the study of bacteria the more common but perhaps after all the more essential points are neglected. It matters not what discoveries are made in the laboratory, until people are taught to observe moral and physical laws disease and death will abound. No serum will ever be found to antidote the penalty of man's sins and indiscretions. The violations of nature's laws first brought disease into the world, and it is only the observation of these laws that will finally conquer it.

Progress and development must take place symmetrically along all lines if humanity is to be permanently benefited by the advancement in medical science. The physican of the future must be an educator as well as a prescriber or a microscopist; and, as he teaches that a proper regard of the laws of health is the only true way to prevent disease, so will he teach the only true way to cure disease is by nature's law, "Similia similibus curentur." Nowhere is this better illustrated than in the disease of young children. Their symptoms are all objective, and real, not imaginary as in adults. Their systems have not been drugged into insensibility by patent medicines or the multitudinous and compound prescriptions of some old school physician. Hence they readily respond to treatment and results are speedy and sure.

The high death rate mentioned herein is found under old school treatment, not homœopathic. Even though our school has better and surer means of cure, still it is wiser to prevent disease.

One of the greatest allopathic authoritites in pædologyy claims in his text-book that pneumonia can neither be aborted nor its course shortened. *We* know better. He also asserts that in gastritis, acute indigestion, typhoid fever and a number of other diseases remedies such as they prescribe are of little avail. One cannot help being impressed with *their* helplessness compared with *our* hopefulness; with their limited means, and our collection of proven drugs, of which one can be found that is particularly adapted to each pathological condition known in childhood.

Would that every child could be treated homœopathically—not with crude drugs, not with combination tablets, but with the *single indicated* remedy, not too low in potency.

The need of pædology is *more prophylaxis and more Homœopathy.*

"MY PARALYZED BABY;" A UNIQUE CASE.

MARY BREWER, M. D., PHILADELPHIA.

"When you start out this morning, will you come to us first? The baby has a sore throat." This message came to me early on the morning of February 3, 1901. The child was then four months old, and had been in absolute health from the beginning of his little life. He was the third child, of healthy parents, of good history. The first of these three children died before my acquaintance with the family, of, judging from the history, *tabes mesenterica*, at twenty-one months old. Mentally, this first child was remarkably developed, knowing all the alphabet and even spelling out many words. The second child, a daughter, was born in my care, and, like the third (the subject of this story), was strong and healthy. Both labors were normal and good, and in both the recovery was uneventful, excepting for a touch of malaria, of which the mother had for several years been more or less a victim.

On this memorable call I found the babe fretful and not looking its usual rosy self; but the closest examination failed to disclose fever, accelerated pulse, swollen cervical glands, or any other evidence of "sore throat," even *per oram*. There was no vomiting, no bowel disturbance, nothing positive in any line, except the one puzzling fact that the babe was utterly unable to swallow. It manifested all eagerness to nurse, but its efforts were unavailing. The mother's account gave no information, being simply that for a day or two the child had been fretful, growing sleepless, and nursing with increased difficulty. Leaving some simple remedy I departed in great perplexity, promising to see the child in the evening. This call brought no light; the conditions were unchanged except there was now a slight rise of temperature ($99^{\circ}/_{5}^{2}$), and the little one had uttered a short, moaning cry, incessantly, and upon one note all day long; no sleep, no deglutition; eyes beginning to look vacant, with pupils but sluggishly responsive to tests, and all limbs in constant, ceaseless motion.

The next morning the same puzzling story. The short, moaning cry, ever on the same monotonous note, had not ceased all the long night; and if consciousness was lost in sleep at all, it was but for a

moment once or twice. The look of suffering was pathetic to behold. The pulse was little disturbed, but the temperature was now 100⅘°, and what was worse, the paralysis seemed extending to the body; for, though the hands and feet were still in constant but feeble motion, the arms and legs lay ominously quiet. I then asked for council, and that evening, being thirty-six hours from my first visit, Dr. Edward R. Snader saw the case with me, and, while sharing my fears of a basic meningitis, withheld a positive opinion until the passing of more time should give us further light. By the next morning even the little fingers and toes had ceased their restless motion, the whole body lay still and powerless, all reflexes abolished, pupils irresponsive, and only occasionally was there evidence of even the slightest consciousness. Meantime to maintain nutrition, rectal feeding having failed utterly, we had resorted to placing in the mouth every half hour one drop of bovinine. But this we were now obliged to discontinue, and devote all efforts to keeping the mouth clear and dry to prevent strangulation, which had come to be a threatening complication.

At this stage, a microscopical examination of the swabbings of the throat was made by Dr. P. Sharples Hall with negative results. In the evening of the third day Dr. Snader, in a second visit, pronounced the case one of tubercular meningitis, and hopeless, Dr. John J. Tuller, with whom Dr. Snader had conferred, concurring in this opinion.

Having given instructions that the child be handled but little, I was surprised at my midnight visit (between this third day and fourth) to find it lying in the mother's lap; tears were streaming down her face, and she whispered, as I approached: "He's going, Doctor; he's going. I *must* hold him until he is gone." And surely he seemed to be going. Hands and feet cold and clammy, the dews of death upon the forehead, the breath faint and irregular; yet when I touched the pulse, I said, "Not quite yet; we will fight on." Not finding the undertaker's wagon at the door as I neared the house next morning, the hope was borne in upon me that if we could by any means nourish the child we might yet conquer; therefore, we commenced on this fourth day regular feedings, at three hours intervals, by means of a soft rubber catheter introduced into the stomach, which, with an ear speculum placed as a funnel in its outer end, answered beautifully as a stomach tube. Our method was to pump the mother's breasts, teaspoonful by teaspoonful, instantly pouring each tea-

spoonful down our improvised tube. To our great joy stomach, bowels and kidneys carried on their work fairly well, and thus we kept starvation at bay. This method of feeding was maintained with unremitting care for about three weeks; water and medicine were also thus introduced.

So day after day, and night after night, we worked, and watched, and hoped against hope. All possible advantage that correct hygiene and general measures could give was assiduously employed through the help of our skillful trained nurse and the brave, steadfast mother. Gentle massage was given the helpless little body as a means of quickening and equalizing the sluggish circulation; for at one time a hypostatic pneumonia threatened us, but this danger was averted. The first good symptom was short, apparently, natural, naps; these times of sleep increasing in lengtht and frequency, and the eyes began to show returning intelligence. At last one day, perhaps about the fifteenth, I was joyfully informed that the toes *surely moved!* And from this time on the paralysis crept slowly away, like a foiled thief, following the same order in which it came, the throat being the last to regain its power. The sickness and convalenscence covered a period of about two (2) months.

Of remedies, necessarily many were used, but of them all Iodoform 3x, suggested by Dr. Snader, and given one tablet every two hours, was, in our opinion, the sheet anchor, *the* remedy of all others to which the recovery was due. It was given from the time cerebral tuberculosis was suspected until mental and motor powers were fully re-established, at lengthening intervals, of course, and much of the time in alternation with some other remedy. The more prominent of these were Aconite, Belladonna, Bryonia, Causticum and Gelsemium; given according to indications day by day.

The temperature never rose above 103°, the pulse was largely of a depressed, slow character, yet varied in frequency and was irregular and intermittent much of the time.

With exception of whooping cough and one or two insignificant colds, this child has not been sick since that never-to-be-forgotten time, and is now a sturdy boy of four years; *sturdy* both mentally and physically, with not a trace of the terrible experience here related; yet my conviction is that this was a true tuberculosis; that perfect absorption took place, thus allowing the recovery.

We *know* that a tubercular deposit may, under favoring circum-

stances, be absorbed from other parts of the body—why not from the brain?

The question of the localization of the lesion seems, in view of the wide-spread manifestations, a puzzling one, but according to Dr. Tuller, it must have lain in the lower medulla, thus involving the centres of the spinal accessory and hypoglossal nerves, but not high enough to affect the pneumo-gastric, while the accumulated fluids might account for the pupillary disturbances, and possibly for other of the phenomena.

CONVALESCENCE.

EDWARD STEEL HAINES, M. D., RUTLEDGE.

It is a very excellent plan to inform one's hearers at the offstart of a medical essay exactly what you intend to talk about.

In the following brief dissertation it is my intention to establish the fact that the period of convalescence, which succeeds the cessation of acute disorders, is a period which demands as much attention to details, and as specific a method of medication and general management as does the more active period of disease which has immediately preceded. I have the impression that the management of the period of convalescence is often conducted too much upon principles of generalization, in which too much is left to inference and guesswork.

According to a strict interpretation of the word "convalescence," no patient may be considered convalescent until there shall have been established a complete cessation of disease. The physician is never justified in the acceptance of any less definite conception of this period. The future well-being and even the future existence of the patient depends upon this strict interpretation of the subject. The surgeon realizes this fact when he declines to relegate the "after-treatment" of his surgical cases to the general practitioner. The general practitioner does not realize this when he relegates the management of his partially convalescent patients to the nurse and to the butcher, or when he states to those so deeply interested that the battle so bravely fought is won, the danger point is past, and the patient is now convalescent.

The "diagnosis of convalescence" is a matter which has been

somewhat overlooked, and yet it is, like the diagnosis of disease, the first essential to its exact treatment.

My second argument is that the diagnosis of convalescence consists or should consist solely in the recognition of *no* morbid physical signs in the patient. That is, the physician is justified in diagnosing convalescence only after the active use of his knowledge of physical examination has resulted in the recognition of normal physical signs in the various organs and structures of the body. There is one drawback to the success of carrying out this method of diagnosing convalescence. I refer to the occasional instances in which the damage that has been wrought in tissue by the specific infection is not easily recognized by the physical methods of exploration. As an example, doubtless many cases of diphtheria, which have from a physical standpoint, reached the stage of convalescence, have hearts which are the seat of serious degenerative changes. In the absence of definite evidence of such changes it would be safer to presume their existence and treat accordingly.

The same plan can be followed with advantage in the treatment of the convalescence of typhoid fever; where degenerative changes of heart tissue develop, or at least become evident, weeks after all the pathognomonic symptoms of typhoid have disappeared.

We are cognizant of the fact that the diagnosis of convalescence is sometimes based upon inference or upon subjective statements made by the patient, rather than upon the existence of normal signs throughout the body. Many instances may be mentioned. Among them are numerous cases of lobar and broncho-pneumonia, which are diagnosed as convalescent and given a clean bill of health; while yet there remains in the lungs abnormal conditions which will surely jeopardize the future of the unsuspecting and confiding victims of misplaced confidence in doctors.

If in infancy any exposure to tubercular infection, either atmospheric or through the food, may result in the development of tuberculosis, even in a healthy child, how essential it is to guard the patient during an attack of measles, whooping cough and the pneumonias where an imperfect convalescence prepares the ground for the reception of the ever-present infectious material. We stand ready to admit that a certain proportion of such cases will ultimately reach the period of true convalescence under the benign influence of time and the *vis medicatrix naturæ;* but not all will do as well as this. Nor will any of them do as well under such a plan of treat-

ment as they will under the specific influence of a more rational and exact therapeutist.

Before speaking of the application of the proper medicaments during the period of convalescence, we should like to repeat the statement that skilled care in the general treatment of the patient should not cease at the moment convalescence begins. The sick room should not be turned into a reception room or the living room. We all lose sight of the fact that children are more susceptible to the influences around them than are adults. A variety of sights or a never ending stream of sounds are as fatiguing to the brain of a convalescing child as to an adult. Those having charge of the patient at this time should be instructed in these matters, their attention should also be called to the possible danger points, the guides to which are often the predisposition of the patient and the organs which have borne the brunt of the attack.

The inherited predisposition is perhaps beyond our power to alter. The other factors in a perfect convalescence often are, or should be, within our control.

Childhood has always been to me an interesting period. Perhaps our views are a little pronounced: but we feel that there is no more promising field for preventive medicine than during this period.

The majority of ailments from which children die are within the power of man in great measure to prevent. It is during the period of convalescence that great care should be taken to prevent the spreading of infection. The time at which such danger is at an end should be carefully considered and decided by the physician, and thus we come to the consideration of the therapeutic portion of this homely essay.

We wish first to take the stand that all cases of acute disorder will not reach the period of convalescence unaided, even after the more acute manifestations of the disease have passed away. There are many reasons for this, the detailed consideration of which does not concern us at this time as much as do the methods by which the physician may assist nature in those tardy or non-reactive cases. Our first duty in all cases is to recognize exactly what it is, or what particular factor is preventing a speedy return to health. It should always be a fundamental principle never to give a dose of medicine without a clear and definite indication. Now it so happens that very often this will prove to be something different from the original disorder. As an example, let me refer to the well known but less often

recognized cases of rheumatic fever, in which a condition of profound anæmia and blood dyscrasia, left after the subsidence of the acuter febrile and joint manifestations, effectually prevents a perfect convalescence. Food or stimulants or massage are here less effectual than simple medicament which will have the power to increase hæmoglobin. Iron, for example, in small doses is a prescription which naturally suggests itself when a lack of hæmoglobin as a cause of delayed convalescence has been recognized and thoroughly appreciated, and the prescription of iron for such a case *might* be made upon that ensemble of subjective complaints, but it would probably be more likely to be thought of after the *cause* and the physical signs in the blood have been investigated. It seems very reasonable to conclude that the equilibrium of the cells of our bodily tissues, after having been subjected to the wear and tear of an acute disorder, will be restored much more certainly and more quickly by medicaments offered to them in non-irritative amounts, and in a form which can readily be absorbed and assimilated. Hence, we infer that large doses of crude tonics are ill suited to the needs of the human organism under these circumstances, and that small doses of accurately selected medicaments in solution will better suit the requirements of the organism. Thus it would appear that the selection of small doses of non-irritating medicaments at this time rests as well upon the dictates of common sense as upon a belief in any special therapeutic law. It is not invariably true that the cause of a retarded return to health will be found to be dynamic. It may be purely mechanical. And in this instance dynamic remedies are not sufficiently potent helps to nature. This is well illustrated in some cases of pleurisy, in which, after an apparent subsidence of the inflammatory features, a large pleural effusion remains. It is futile, even worse than that, to delay the application of the mechanical aid of aspiration in such a case. As quickly as such a cause can be determined, let us apply the mechanical expedient that is needed to permit the natural rebound to health, and even after that, it often is necessary to combat remaining dynamic disturbances by dynamic remedies before the ultimate goal is reached.

If time permitted much more might be said upon this phase of the subject, but leaving the wide subject of the intrinsic causes of delayed convalescence, let us refer briefly to some of the extrinsic causes of delayed convalescence.

It is possible that the extreme delicacy and the extreme sensitive-

ness of the human body after acute disorders is but partially appreciated. Perhaps when we say that fresh air and physical exercise and hearty food are what our patient most needs, it may occasionally happen that the opposite advice would be nearer the ideal. Prolonged rest, passive exercises, gently stimulating and non-irritating food, sleep and protection from air that is too stimulating or which contains irritating moisture may be the *sine qua non* for some cases. Thus, after measles, tuberculosis frequently occurs. Not always from some intrinsic weakness of constitution alone, but sometimes solely as the result of delicacy and sensitiveness of tissue plus too early exposure to the extrinsic specific organisms. It is not saying too much to claim that such things are largely under the actual control of the medical man.

The points that I have chosen to bring before you, then, are these:

1. The importance of a strict interpretation of the meaning of the word "convalescence."

2. The method of its diagnosis.

3. The wide field of usefulness for accurately adapted therapeutics, in the aiding of Nature, in cases of delayed convalescence.

4. The importance of the accurate recognition of the cause or causes of retarded convalescence.

DISCUSSION.

DR. R. E. TOMLIN: We have in the paper of Dr. Haines one on a subject that is not often presented before a medical body, and yet one the importance of which is sometimes not fully understood. What is convalescence? When does it begin and when is it complete? I must agree almost entirely with the position of the essayist. There are many sanitariums throughout the country provided with oceans of tonic. There is probably no part of medicine where the skill and tact of the physician is more greatly needed than at just this time we call convalescence. After a serious illness, such as typhoid fever or pneumonia, when the temperature has gone down and the family are inquiring about the temperature, pulse rate and general condition of the patient, there comes to the mind of the physician the question what he shall do and how he shall do it. It is a well recognized fact that tuberculosis is rapidly on the increase after simple pulmonary affections, such as bronchitis and so on; that after the high temperature has disappeared the doctor is

generally supposed to take his departure, and it is at this time really that the skill of the doctor is more needed in one sense than at any other time. The one particular thought in my mind is this: I am a most urgent advocate and believer in prophylaxis. I am a most urgent advocate of the teaching of Dr. Walter. I believe as physicians we give too little attention to nature, so-called, and too much merely to drugging. Patients coming into our offices are presumed to be convalescent or to have some trivial illness. In such cases the thought in my mind is, what is the matter with you, and what can I do? Very frequently, especially if there are a number of people in the waiting room, the simple thought is to give Aconite, and so on, and pass on, whereas, as a mater of fact, the prescription of a drug is the least important factor in the case. I am glad to have heard this paper. It is not my intention to take up your time in discussing it further, but I think we owe a moral obligation to our patients and the public at large and to our own conscience to give the subject of convalescence more serious thought, for it really requires more than either high potency or low potency drugs. There are many factors entering into it. Those of diet, hygiene and general care of the body are certainly as essential factors as any other that can enter into it.

Dr. W. G. Dietz: How many cases come to us, and on inquiring into the history we are told that ever since such and such an illness they have never been quite well. These are cases in which I presume we are all guilty of leaving with very scant instructions as to what course to pursue. There are several active causes for such a result. In many instances the family want to dispense with the services of a physician, for pecuniary reasons, long before it should be done, and the physician is almost compelled to comply with the wishes as they are expressed. However, his responsibility does not end then, and if the family or those who have control of the case decline to have any furtheer attention by the physician, the physiican can give directions what to do and dispossess himself of any responsibility for the further outcome of the case. Where we fall short is in that we do not do this. In cases of typhoid fever or diphtheria we have the immediate result of weakened myocardium with all its dire consequences. As has been said, they generally go to an extreme, and either resort to the natural means at our command or to drugging. I think there is a medium. Every case has to be treated upon its own merits, nor can anything be said applicable to any

number of cases. I do not think it is merely a weakened heart that is mostlly at fault, but it is the presence of toxins in the system, which, in a longer or shorter time, will be baneful, and our object should be to rid the system of those substances. What their action is is a matter of speculation. Sufficient it is that they are present, and, moreover, in this weakened condition the system is more apt to become subject to new infection, and especially tuberculosis. Tuberculosis, as understood up to a very recent time, meant consumption. We lost sight of the fact that it is very prevalent in other organs of the system, and is called by any other name except the right name. The physician fools himself, and the patient is treated for something he has not until it is too late. When the manifestation of the disease becomes so pronounced that anyone can make the diagnosis it is far too late, and the time has passed when something efficacious can be done. The subject is uterly neglected in our Society, and not at all touched upon in the text-books. The individual physician must learn by experience, often of a very expensive kind, while if those things had been brought to his knowledge at earlier stages in his medical career the result would have been different. I only regret the essayist did not touch upon some of the homœopathic remedies that can be used in this condition. There cannot be any general rule as to what remedies are to be used, but there are a few that will always come to our minds in connection with these cases. I think, especially in weakened myocardium and even in general anæmia, Arsenicum will meet the condition that presents itself. I remember especially a case where gastric symptoms appeared with utter inability of the patient to retain any food, which was due to a condition of weakened circulation and a weakened heart. All remedies will not do if you do not keep the convalescent in an absolutely recumbent position, because the patient will exert himself and all is over. If we use the remedy in connection with natural means it certainly will help. Symptoms which were hardly heard of in the hour of disease, when the case has gone on perhaps for years, can be traced to persistent acute disease.

THE OBSERVATION OF SYMPTOMS IN CHILDREN.

JULIA C. LOOS, M. D., H. M., HARRISBURG.

The children, God bless them! Is there anything more interesting or more varied? In all the world there is no more important or enchanting business than the making of children, in the light of the highest present knowledge, and no art more worthy the medical profession than making over those children that are handicapped by disordered vitality. The children are to be the men and women of the future and the stamina and health of these grown ups depend upon their state of health in childhood.

A healthy child represents the sweetest, happiest, most beautiful, aye, and most powerful creature on earth, for these little ones can do with the hearts of their elders what commands of kings and penalties of rigorous laws have tried in vain to accomplish. A healthy child is good, joyous and sweet-tempered, and loves to be active, playing and working in the daytime, sleeping quietly when at rest. The appetite calls for the kinds of food that are best for its nutrition, at regular intervals. Without fear, without pain, regular in habits, such a one grows steadily, in beauty of form and feature.

"Then," some will say, "there are few healthy children." That does not detract from the truth of the standard, for any deviation from this is an expression of disorder within. It is our present aim to investigate the occasions and expressions of such deviations as mark children, disordered or diseased.

Even our professional brethren of the old school are coming to a recognition of the truth, publicly voiced by one prominent in their ranks, that disease action is expressed by subjective symptoms long before any objective changes can be detected. The homœopathic physician is not well trained who does not know that the most favorable time to cure a patient is before his sickness has developed so far as to be named, according to current nosology, before it has reached the stage of expression in morbid tissue changes.

The children who are threatened with consumption, rickets, marasmus, hip-joint disease, spinal curvature, epilepsy, St. Vitus' dance, paralysis, hydrocephalus, and so on, if seen early, should be started on the curative track before these dread forms appear. Otherwise

the physician has failed in his art. Yes, even the full development of measles, scarlet fever, whooping cough, diphtheria and meningitis may be prevented by the application of Homœopathy in the early stages, so that no diagnostic picture is developed.

Our beloved science of healing has higher claims to supremacy than allowing patients to recover from, or "pulling them through," the self-limited disease, which, as we are often told, would naturally end in recovery. What other method of treatment can prevent the development of the successive stages after an acute disease has been contracted and has started on its course, and deliver the patient as well as, or better than, he was before the attack? What other science will shorten a disease of weeks' duration to a few days, or convert a malignant form to a mild one, as can Homœopathy, rightly applied?

No one will believe this (and how could he from observation of other means) unless he has learned the importance of careful observation of symptoms in each individual case. The image presented by the characteristic symptoms of the *child* is the basis of the prescription, which is to act as the magic wand of royal Homœopathy. No fairy tale of childhood, no deed recorded of giant, gnome or fairy godmother is so fascinating as the transformation, seen under the influence of the properly selected and properly administered remedy, in the diseases of children.

What are these symptoms upon which so much depends? They are peculiarities which often would not be voluntarily mentioned to a physician because people do not know the difference between signs of health and those of disorder. They are traits for which many children are punished (without avail, it is true). Some are those things which render children troublesome to their attendants and difficult to manage. Mostly they are queer traits or variations from the normal for which there seems no satisfactory explanation. Because of their importance it is often worth several hours of the physician's time to observe, personally, the patients whose attendants have not learned how to report them.

Briefly, these are the things to be observed:

1. Disposition.
2. Intellectual state.
3. Nervous system.
4. Sleep.
5. Temperature, weather and bathing effects.
6. Position, motion and modalities.

7. Variations as to time.
8. Evacuations and discharges.
9. Appetite, thirst, desires and aversions.
10. Function and tissue alterations.

1. Disposition. The child may be cheerful, bright, yielding readily to the will of others, or fretful, whining, sorrowful, easily offended, ready to cry at the least reprimand in tone or word. He may be spunky, fretful, never suited, throwing away whatever is offered, demanding constant amusement and much rocking or being carried. He may be so sensitive that every trifle irritates him, sets him screaming, kicking or throwing things. Another may be so timid that he can with difficulty be persuaded to show himself to a stranger, hiding behind his mother, or in a corner behind a chair. Again, he may be full of fear, pursued by the thought of what has frightened him, and still afraid after it has gone; the fear of fright remains. He may be quiet and content when left to himself, but crabbed and uncivil when spoken to; all he wants is to be let alone.

2. The intellectual state shows all grades of activity and development. There is the precocious child, alert at comprehension, learning without an effort. Then there is the languid, almost stupid one, to whom every mental grasp is an effort. To some mental effort is impossible; development is so dwarfed that though six or eight in years the child is but two in intellect.

3. The state of the nervous system is expressed in many ways. You may find the active, restless, never-can-sit-still child who goes all day and tosses at night, or one who will be called lazy with no inclination even to play. Some children start at slightest noises and are sensitive to light and even to touch. One may cry for a light in the room, and another be thrown into a coughing spell or convulsions by looking at the bright light. You may think to keep a child still by making him sit or lie down, only to find that face or hands or feet are in constant motion except in sleep, when all are quiet as you could wish.

4. Children asleep tell many symptoms. A common saying is "He sleeps as sweetly as a babe," and means relaxation and ease, but some children toss from side to side and from head to foot of the bed. Some kick until the feet are uncovered and then sleep quietly. Some throw covers off the chest and will not have the arms under the bed clothes. Others will cover even the heads. Many children, instead of being "the alarm clock for the house," hurry to school

without breakfast because they staid so late in bed, despite frequent callings. One may not sleep till midnight and another not after midnight. You may observe eyes half open, or muscles jerking, or the child walking about, or grinding his teeth though fast asleep. One little one wakens frightened, sits up and stares about and lies down to sleep, repeatedly. Another is wakened as often as he goes to sleep by a coughing spell or hard breathing or some other symptom. Some children cry and moan without waking, others waken in tears and sobs.

5. Temperature, weather and bathing. Some children love to play in cold air, in the snow and on the ice, while their friends hug the fire or radiator, and have all complaints from being in the cold. Warm weather wilts some and others long for summer. John must be bundled up more than James; do not try to dress them alike. Philip seeks every opportunity to play in the water, but Walter cries when his hands and face, alone, are washed. After every bath Mary's skin is streaked and mottled. John loves the bath, but is worse afterward. Allen threatens spasms if in the warm water five minutes. The air that some love to have blowing over them will give all sorts of ailments to others. Let Alice play in the cold wind and you may prepare for croup at midnight.

6. Position and motion have different effects on your little ones. One will be soothed by gentle motion, another says "rock faster;" while one is at ease only when rocked or carried, the next may have all her suffering increased by changes of position or least motion. Merely lifting or putting down on the bed will cause some children to cry. One child must lie with head high, another will squirm off all pillows to lie flat. Different children choose the right side, the left side, the back or abdomen to lie on for most comfort. You will see some stretch out straight and others draw up in a bundle.

7. Time variations are numerous, but it may be noticed nearly always that some part of the day or night the child is regularly worse. When one is terribly ill another is resting quietly. Parents learn, after a while, that at a certain time their attention is demanded. It may be 11 A. M., 2-5 A. M., 3-6 P. M., 4-8 P. M., 9-12 P. M., or after midnight, etc.

8. The variations in evacuations and discharges must be noted, the color, odor, consistence and general appearance. The effect on the

skin, the amount of discharge, the manner of evacuation, and all peculiarities in each case must be learned.

9. "There is no accounting for taste," you say, but the appetite and thirst are important considerations. When John cries for meat, Joe pushes it away for sweets and pickles. Thomas prefers dirt, plaster and slate pencils. Mary eats salt and drinks water. Many curious cravings of appetite are unexplained but persistent. You can't persuade Maggie to drink at all, and her sister will take a glassful at a time, but Susan wants a very little very often, but it must be very cold.

All the things children want and want to do are worthy of attention, for they show what gives relief, while their queer aversions show the aggravating circumstances. Everything which occasions amelioration or definite aggravation is worthy of note.

10. The tendency to certain alterations in tissue and function is marked in many cases. Always when John is sick he has stomach trouble or diarrhœa. Joe is always "out of his head" with the least disorder, and his temperature flies high with the least "cold" contracted. All Mary's colds settle on her chest and Maggie's in her ears. James has croup on slightest provocation. Paul has so many "wax kernels." Alice's sickness is always some form of rheumatism. Edith's flesh bruises easily and wounds are slow to heal. In some catarrhal tendencies are strong, in some muscles, in others nerves, and in others the circulation is most affected.

What do all these things mean to the physician? The totality of the *individual characteristics* sketches the image of the remedy which is needed to *cure* the particular child under consideration for all these, and many other strange things seen in children can be matched by remedies in their provings. These things spell the message: "Give this child Nux vomica, that Aconite, and that one Calc. c., and so on."

Pictures.—1. When the mother says: "Rose has such pains and inflammations in her joints she cannot use them and will not let me touch them. Every movement hurts: first in the wrists then in the knees, and finally all over the body. The jar of coughing hurts so she screams out, but there is a quantity of tough, yellow mucous I must wipe away, which comes in long strings. She used to have an eruption in warm weather, but it always goes away when the cold weather comes." You will not cure the child until you give her Kali bich., though you may change the seat of her manifestations. If

she has the remedy no fear for her heart need be felt. If she has liniments and no Kali bich. beware of the results.

2. When a light complexioned, blue-eyed boy is brought to the office and his father says he has headaches as soon as he is shut up in school or in the house and may not play out doors, and he gets feverish in the evenings but won't drink water, you ask a little more. You find he won't eat fat but wants sweets; that tears come easily when he is scolded, that he lets the boys take whatever he has at school, though he likes school and won't stay home in the cold weather, and don't want an overcoat. No matter whether he has sore eyes, indigestion or rheumatism, it is Pulsatilla he needs to help him to grow sturdy, and unless he has it he will be a puny man, subject to his own sort of complaints.

3. Never mind about using the knife for Paul's "wax kernels." It is easy to remove them but you have not helped the child one bit, but driven him so much nearer to consumption. If they suppurate with a thin, bloody or thick yellow and offensive discharge, and the sores won't heal, no use to inject hydrogen dioxide by the pint or apply antiseptics, to the end of the list. When you find that he is neat and tidy, personally, but cannot wash his feet enough to keep from them the offensive odor of the cold perspiration; that his feet are always cold, and he can scarcely be driven from the neighborhood of the stove or register; that he has cough or sore throat or diarrhœa off and on all winter, and is naturally of a sensitive disposition; you give him Silicea and his glands will soon grow as they should. Next winter he will be a different boy without inflammations, coughs and diarrhœa. He is your friend who loves to take off his hat to you, and when he grows a little older he will not have consumption in any form, for you have gone to the centre and straightened him out.

To know the essential significance of such symptoms in children and the nature of remedies well proved in their living images is a greater advantage to physicians, and renders them of more use to their patients than all the bacteriology and antiseptics in ten laboratories.

DISCUSSION.

DR. C. S. RAUE: I believe the reason we are more successful in prescribing for children in the majority of cases is because we rely

more on objective symptoms than on subjective symptoms. We are willing to take the patient's say-so for many symptoms, and we prescribe on certain sensations that may be erroneously interpreted, or we will have an idea that a certain condition may be present in the patient simply from subjective sensations which are very often exaggerated. In children, however, we prescribe for the condition exactly as it exists, because they do not exaggerate, and we go more by the outward manifestations of disease, and unless a physician understands the Materia Medica from the standpoint of objective symptoms he will be a very poor therapeutist with children. I think, however, it is wrong to imagine that we can do everything with remedies. It would be very nice if we really could bar attacks of meningitis or attacks of infectious diseases, but I am afraid we cannot do that. Many symptoms of apparent meningitis will often be found in children, and they are purely of toxic origin. Almost any of the severe infections will be opened by cerebral symptoms so closely simulating meningitis that it will be impossible to differentiate them. If such symptoms are transient the chances are they were not meningitis. The only way you could prove you had cured a case of meningitis would be to make a lumbar puncture and demonstrate the organisms in the fluid. It is not a symptom but an acute infection of the brain. Therefore, if transient symptoms of a serious cerebral nature are not inflammatory they must certainly have been toxic. I think it is wrong to say we can bar meningitis or cure such conditions or bar the other acute infections when we know that is absolutely impossible. When micro-organisms have once gained entrance into the system they are sure to run their course. Remedies will stimulate reactive power of the organism and make the disease run a shorter course.

Dr. Clarence Bartlett: While I have not heard the paper under discussion, Dr. Raue's remarks suggested to me a thought that I think we should all carry with us, and that is, that we, as a school, should not attempt what might be called therapeutic gymnastics. We allow ourselves to be put in a false position by our enemies and friends alike, I really think by our friends more than by our enemies. The most that should be asked of us is that we shall do better than the other side, no more and no less. If we do more we may be satisfied with that. We will still continue trying to do better. Our friends ask us to do the impossible, or rather what is believed to be impossible at the present time. The result is we

make ourselves ridiculous in the eyes of the world. We want to pay attention to those things we can do and can do better than others. I think that is a thought we should keep in mind and not in attempting therapeutic gymnastics lose sight of the main issue.

TYPHOID FEVER IN CHILDREN.

A. S. MCDOWELL, M. D., READING.

While, strictly speaking, typhoid or enteric fever is not a disease of childhood, yet a sufficiently large number of cases occur during that period to warrant us in giving it considerable attention.

The object of this paper is merely to bring out briefly the salient points in the treatment of typhoid fever.

As it is an acute infectious disease of the small intestines, and practically non-contagious, we naturally look to see whence arises the infection. The cause is a specific micro-organism, the bacillus of Eberth. Let us note where this organism flourishes most profusely.

Water, the liquid essential to human existence, is undoubtedly, when polluted, the chief cause of typhoid.

Milk coming from cows that have contaminated water supplied them, or that have eaten grass on which improperly treated fæcal matter has been spread, is also a source from which many cases arise. The washing of milk cans with infected water, the addition to milk of infected water, natural ice, the excrement of typhoid patients are other sources that may be mentioned.

The recent experiments in regard to the germicidal effects of copper sulphate, while proving that the bacillus of typhoid will die after four hours' exposure in a copper vessel to the action of this chemical, the water being kept at the temperature of an ordinary living apartment has the objection that it requires hours to produce the desired effect. The necessity of procuring copper vessels would be an expense that many of the poor could not afford. As every one can readily boil water, and without increase in household expenditure, it seems to me to be the most satisfactory way of dealing with this bacillus. Boiling water for a period of ten minutes will completely destroy this organism. Freezing has no effect whatever. The precaution to be taken is plain: Boil all water used for house-

hold purposes, properly disinfect all typhoid excrement, guard against contaminated milk and ice, and this disease will be relegated to the past. Our duty to the community in which we live and to the public at large, lies in preventing, rather than in curing, typhoid fever.

The incubation or prodromal period varies from a few days to two weeks. During this stage we find more or less languor, backache, tiredness of limbs, bleeding from the nose, headache, loss of appetite, constipation or occasional diarrhœa. These symptoms vary somewhat in given cases, but are present in the majority.

With the invasion we have chill followed by rise of temperature accompanied by soreness in the ileo-cœcal region, tenderness, gurgling, enlargement of the spleen and liver, a red-edged tongue with a thick white coating, changing to brownish or sometimes with a glazed streak appearing down the middle, parched lips, sordes, thirst and offensive breath. There is often a pronounced restless or nervous condition, but dulness may be present instead of nervousness. The pulse is increased, although not in proportion to the temperature, and is dicrotic at times.

The eruption of typhoid generally appears about the beginning of the second week, although it may be delayed to the twelfth or fourteenth day. It is absent in about fifteen per cent. of cases, diagnosis in these being accomplished by exclusion. These spots are found on the left side of the abdomen and over the chest, and often appear in successive crops. They are pinhead size, separate, disappear on pressure and reappear when pressure is removed.

The temperature rises rapidly, becoming slightly higher each day for a period of five or six days, and is then followed by ten days or two weeks, and sometimes longer period of elevation, marked by a morning remission and evening rise of about two degrees. After this period, should the case progress favorably, the morning remission increases gradually, and about the fourth week a normal temperature is reached. A morning subnormal temperature, of some duration, is not unusual at this period. If, however, the case is marked by continued high temperature, there is more likely to be an unfavorable result.

Where cerebral symptoms are severe, the temperature is apt to vary considerably from the ordinary typhoid range. Cerebral symptoms include headache, from a simple dulness to a congested condition, often accompanied by bleeding of the nose.

Delirium frequently occurs during the first week, manifesting itself generally in the afternoon and night. Occasionally a marked drowsiness is present, the patient sleeping day and night. Paralysis may occur late in the disease, terminating in the majority of cases in complete recovery.

Trembling of the tongue and inability to protrude it any distance may often be observed.

Diarrhœa.—This may start during the first week, and continue until the end of the second week, ocassionally becoming chronic. It is of a green or yellowish character, accompanied or preceded by colic-like pains. These movements may be either voluntary or involuntary, and vary in number from two to a dozen or more per diem, and may often contain specks of blood and small sloughs. The odor is penetrating and offensive.

The Glandular System.—The spleen is enlarged in practically all cases, and is tender on pressure. The liver is also sensitive to pressure. Both the spleen and liver frequently remain in this condition during the course of the disease. The urine is diminished and is heavily loaded with urea. Albumen may be present late in the disease in small quantities.

Hæmorrhage.—Ulceration is most marked during the third and fourth weeks, and with its constant sloughing we find hæmorrhage most likely to occur at this period. The quantity varies from mere specks to several ounces or even fatal hæmorrhage. Here we may find a drop of several degrees in the temperature, reacting in several hours, providing the hæmorrhage is not severe enough to cause death.

Complications.—They are: Broncho-penumonia, peritonitis, perforation of the bowels with bleeding into the abdominal cavity and consequent collapse, and relapses from indiscreet diet, auto-infection and over-exertion. Personally, I have had one case of auto-infection in a boy who would persistently pick at various parts of the body and around the rectum, and in a moment or two pick at his nose, lips and teeth, and thus reinfected himself.

Perhaps I should mention ambulatory or "walking typhoid." This is frequently met with in children, the parents assigning the aches and pains to "growing pains." The disease often reaches the second week before the child receives proper attention. Usually these attacks are not as severe as the ordinary type, although at times they

result fatally. Abortive typhoid is but seldom found in children, and requires no special comment.

Prognosis.—Under careful homœopathic treatment, assisted by good nursing, provided the case is secured in the early stages, it may be said to be favorable. Very few cases should result fatally. From personal experience five per cent. is too high a mortality.

Treatment.—First, careful prescription of the indicated homœopathic remedies. Second, a good trained nurse. Third, proper diet. In fact, the combination of these three is essential to good treatment. The patient should be placed in a large, airy room with plenty of sunshine. An abundance of good air is of great assistance. Draughts, of course, are to be avoided. Cool sponge baths should be given when the temperature reaches 103 degrees or over, and repeated at intervals of three or four hours, if necesasry. Alcohol and powdered alum make a good preventive of bedsores. A daily cleansing bath should be administered. The ice-cap placed over the region of the spleen and left side of the abdomen does much to reduce the temperature and allay the inflammatory process. The congestive headaches may be relieved by the same method. Antiphlogistine will frequently aid in relieving abdominal pain and tenderness. Disinfect all excretions with a reliable antiseptic. Burning or the use of lime answers all purposes. Constipation during the later stages of the attack may be relieved by enema or suppositories. The bowels should move at least every other day.

The mouth should be cleansed two or three times a day with Glycerine—one part Glycerine, two parts water, or with Glyco-Thymoline, or some similar preparation.

Diet.—The diet should be liquid throughout the entire course of the disease. Milk is undoubtedly the ideal diet. Gelatine, ice cream, cocoa, junket, buttermilk, unfermented grape juice, milk punch, and during the later stages egg-nog will be found of assistance where some stimulation is needed. Personally, I have found the less stimulation used the better, especially during the early stages. Beef tea and mutton broth are also useful in sustaining the strength of the patient. Care should be taken in selecting food from the foregoing list, to take that which will be suitable to the condition of the patient's bowels.

Water should be given freely and often.

Medication.—The great majority of cases need no other remedies than Bryonia and Rhus. These remedies, if used persistently, may

be depended upon, in worst cases, to bring about a successful issue. Ars., Bapt. and Hyoscy. may also be mentioned as being useful. Strych., 1-40-1-60 of a grain, answers very well in circulatory weakness or collapse. Make your selection of remedies carefully, give them time to act, and you will get results. Practically all of your cases will recover.

MARASMUS.

F. L. MUTH, M. D., WILMERDING.

The presentation of such a subject is deserving of the experience and acumen of the specialist, for the disease under consideration is evasive and difficult of analysis. We cannot pretend in a dissertation of this kind to present anything more than a general statement of the facts as they have come to the observation of brother practitioners and by them placed upon record.

Marasmus is a simple form of atrophy occurring chiefly in artificially fed infants but also with those at the breast. It is not an organic difficulty and should not be considered as such; in cases where there is a constitutional disturbance or local affection our present theme does not apply. Marasmus refers chiefly to wasting of muscular and other soft tissues, the causes of which have been vaguely determined. It may arise from conditions over which the parties concerned have no control, or it may be provoked at will. Any child prematurely born, or one that is weak and delicate, is more predisposed to this disease. The intelligence, physical condition and general surroundings of the mother are in a large measure responsible for the existence of marasmus. She may, by failing to nurse the infant at the proper time, reduce the quantity and injure the quality of the milk; likewise, mothers who are unhappy, those who are unwilling to nurse their infants, those who hurry about their work, and those who are irregular in their periods of rest and in their eating will produce a like condition of the milk. Artificially fed infants are more susceptible than breast fed. In the former case the food is either too limited in quantity, is indigestible, or else supplied in a form in which the ingredients are not properly balanced. Occasionally hand fed infants are over fed, which is a prolific source of such pediatric trouble. Nursing bottles, especially those with long tubes, are factors; surroundings play a very important part. In

large cities, in closely crowded apartment houses and in hospitals, where the ventilating facilities are defective, marasmus is quite common notwithstanding we have the latest, most improved ways of feeding. Though less frequent, it sometimes occurs in the country, particularly during the summer months, and the cause here assigned is the poor condition of the food, resulting from the fermentation of cow's milk. The country infant, however, usually thrives because of the advantage of pure air. In a word, then, as Holt expresses it, "Marasmus is a vice of nutrition."

The essential symptoms are: An extreme atrophy; the child begins to lose in weight; the skin becomes wrinkled, dry and hangs in folds upon the extremities; the legs and arms are merely covered with flesh; the features are large and sharp; the eyes are open, fixed and expressionless, the globes are sunken in their orbits, and the cornea dull and sometimes ulcerated; the tongue is dry, and the mouth seems too large; the cheek bones and chin form exaggerated prominences; the fontanelles are depressed, and the lines of sutures are marked by ridges due to the over-riding of the cranial bones. The general appearance is that of a lifeless, mummy-like body.

The body temperature is usually subnormal, but in some cases may be supernormal. Respirations are generally normal. Pulse is ordinarily weak, and may fall to 60. Vomiting may be present from any slight cause, and food is sometimes regurgitated as soon as taken. Stools are normal in the majority of cases, but at times are increased very much for the amount of food taken. Occasionally we have a diarrhœa alternating with constipation. When stools are loose, they are green, curdled, or at times streaked with mucus. The temperament and general conduct of the child is a fair thermometer of the progress of the disease. In the earlier stages it is observed to be cross and noisy, but soon lacks vitality, and is unable to cry. If there is a tendency on its part to peevishness, the extent of its demonstration is a low complaint. It opens its mouth and seizes with avidity the breast or nursing bottle, but lacking the necessary strength to suck drops it quickly.

Most cases are difficult to diagnose from acute starvation and hereditary diseases. The chief discrimination should be made against tuberculosis, with which it is often confused. The two are so nearly identical that mistakes are quite common, and there is no absolutely certain method of diagnosis without a history of hereditary tuberculosis. In simple atrophy the child is almost invariably in good

condition at birth; in tuberculosis the evidences of disease are often observed at birth.

Pathology in the case of marasmus is very unsatisfactory. There is no special abnormal condition which can be claimed to be characteristic. In some cases we have enlargement of the liver (which becomes fatty). During life we may detect this condition by palpation. Stoker and others claim that there is always an enlargement of the thymus gland, and that an enlargement of this gland is an index to the general nutrition of the child. Others claim an enlargement of the lymph glands, chiefly those of the neck, axilla and groin. All the organs of the body seem anæmic, and the brain is anæmic with dark blood in the sinuses. The heart is pale with a slight increase of the pericardial fluid. In the lungs we may find a hypostatic congestion. The blood is dark and of a syrupy consistence. Intestines are atrophied, and sometimes contain undigested food and mucus. The mesenteric glands are slightly enlarged, and in addition to the above we sometimes find indications of an acute disease as pneumonia, bronchitis or a slight intestinal catarrh.

The treatment of marasmus is dietetic and hygienic. No details should be considered too trivial for the physician's personal attention. If there is anything about the diet, regimen or care of the child itself, or anything in the habitation which seems capable of exerting an injurious influence, it should be remedied at once. When the quality of the food happens to be the cause of the malady, whether it be the mother's, wet nurse's or some substitute food, such change should be advised as will secure the most healthful nourishment possible under the circumstances. If nursed, the mother's milk should be examined for cream and curd. If hand fed, the most scrupulous care should be taken to secure antiseptic cleanliness. Milk or milk and meat juices should be the staple food to the exclusion of all farinaceous articles and patent baby foods. In some cases where mother's milk disagrees, in cases where the mother has no milk, where she is suffering from some malady, or in case of death of the mother, when we are compelled to change milk, we should, if possible, secure the services of a wet nurse. The wet nurse should have a baby of her own about the same age as the invalid child. She should be perfectly healthy, strong and even tempered, especially should there be no suspicion of tuberculosis or syphilis present.. She should be willing to eat, exercise and to live as to fit her for the care of the infant. Infants deprived of the

services of a wet nurse usually should be reared on a bottle. A selection of the proper food for the child is very trying for the general practitioner in smaller towns. Cow's milk and goat's milk should be the principal food. When modifying cow's milk we should have low fats, low proteids, partly peptonized and relatively high sugar. Fat should be low since the bowel absorption is very poor. We should begin with lower percentages, then gradually increase as the child improves. A very important part of the treatment is *fresh air*. The child should have properly ventilated apartments both day and night, and, if possible, should be removed to the country to enjoy the advantages of pure air. Should the child be very young or weak it is best to envelop it in cotton wool to retain the heat of the body. The administration of oxygen is found to be very beneficial. Daily warm baths, cod liver oil inunctions are helpful. Nor should we forget the effectiveness of homœopathic remedies. However, failure after the use of any or all these remedies need occasion no surprise. There is no prescribed formula for all cases. The treatment must be adjusted to suit the idiosyncrasy of the individual.

REPORT OF THE

SECTION OF SURGERY.

Asepsis and Its Uses in Latter Day Surgery, by J. L. Peck, M. D.

The Treatment of Certain Intra-Abdominal Diseases From the Standpoint of Surgery, by G. M. Christine, M. D.

Excision of the Elbow Joint, by E. R. Gregg, M. D.

Anal Fissure, by G. B. Moreland, M. D.

Nephropexy According to the Method of Edebohls, by H. L. Northrop, M. D.

Fractures of the Neck of the Femur, by G. A. Van Lennep, M. D.

The Present Status of the Surgery of the Stomach, by W. B. Van Lennep, M. D.

ASEPSIS AND ITS USES IN LATTER DAY SURGERY.

J. L. PECK, M. D., SCRANTON.

Not many years since it was the prevailing opinion among medical men that the more profusely a wound suppurated the more beautifully it was healing, and the more creamy the pus the more laudable the process of repair. It was customary to wash the hands before indulging in a dinner, but as to cleansing them prior to a surgical operation that was a waste of time. Not even the seat of operation received any attention in the way of cleaning or aseptic preparation. Bacteriology was an unknown science, and the use of antiseptics an unknown quantity. The scalpel was sharpened over the sole of the boot, and the soiled instruments wiped off with any ordinary rag. Boiled water, sterilized solutions, aseptic instruments and sterile dressings formed no part of a surgeon's outfit. Long beards were useful in sweeping away the debris from the wound, and the sweat of the operator's brow aided the wound in its endeavor to suppurate nicely. The mighty army of undiscovered and unknown staphylococci and streptococci poured in their deadly volleys with far-reaching effects, there being no searching microscope to detect their smokeless powder and their noiseless explosives. Death followed in their train to such an extent that the patient frequently

chose the less of two evils, and ran the risk of living through a dreadful disease rather than submit to the boot-strapped knife. It is not surprising that the knife which is now regarded as a friend to abscess and appendicitis was then as much dreaded as the poison of the Indian's dart, or the venom of the rattler, since it contained a poison often as virulent as either.

Things were not always to remain thus. The Creator of progress had placed in man the power to discover and invent ways and methods with which to meet the emergencies of human life and combat its conflicts. These were not all revealed in the creation, but were left to man's ingenuity and research to discover and apply. The sciences of medicine and surgery have kept pace with the other sciences, if not even a full length ahead in the rapidity of their advancement and effectiveness of their achievements. Pain and torment formerly controlled by strong straps and the blacksmith's mighty muscle are now lulled into peaceful slumber by a few inhalations of ether, chloroform or nitrous oxide, or the patient may even gaze, unaffected, at many surgical operations performed under the influence of God-given, man-discovered cocaine, eucaine, ethyl-chloride, or kelene; even more striking is the use of spinal anæsthesia, a thing unthought of a few years ago. The potion which the therapeutist wields with wonderful and increasing precision, the application of the force which Franklin snatched from the clouds, the uses of advanced hydrotherapy, massage, vibration, improved diet, hygiene, physical training, the X-ray, Finsen light, and radio-activity all betoken progress as simple and natural as formerly unknown.

This is a day of specialists. The pathologist is as essential as the surgeon, the ophthalmologist as the gynæcologist, the neurologist as the dermatologist. It is the pathologist who diagnoses and tells the surgeon to cut wide of the mark in early cancer, and not wait the death stamp of the disease before the diagnosis is made and the surgeon summoned. It is he who differentiates between diphtheria and tonsillitis in time for antitoxin to save the day and the life, and who finds the tubercle bacillus while there is yet time for the climates of the western plateaus to restore the otherwise doomed. Woe to the surgeon who does not recognize the services of the skilled pathologist in the incipiency of suspected malignancy, but greater woe to his patient! Alertness and prompt action on the part of the physician or surgeon in having examined scrapings of the

uterine mucosa, a neoplasm of the tongue, or other parts of the human anatomy where the least doubt or suspicion of malignancy exists will save or prolong a life and make for him a reputation.

It is the duty of the surgeon, the pathologist, or anyone else who poses as an active member of our profession to attain the highest round of knowledge and acquire the best skill possible, but to avoid treating his patients unaided in cases beyond the limitations of his knowledge and skill. That is the field for the specialist. He who rashly rushes in where angels fear to tread may as surely break the sixth commandment as a red-handed murderer, though not as liable to be brought to justice in this world. It requires special knowledge to decide *when* is the proper time to operate for appendicitis, pelvic infection, brain injuries and diseases and innumerable other surgical conditions; or whether there should be an operation at all. Doubtless we all have seen cases where an operation at the wrong time, or where there should have been no surgical interference at all, result fatally, where judicious and skillful management would have saved the case. It is in such cases where special knowledge and skill, ripened with that best of all teachers, experience, is demanded. Is the practitioner who does not possess this adequate knowledge and skill justified in attempting any more than the gynæcologist in treating an iritis, or a surgeon in treating pneumonia or typhoid fever, or an ophthalmologist in treating gangrene of the leg? Is there not a possibility of over-reaching the line, and a tendency on the part of the profession to dabble in surgery without regard to a standard of qualification, which society and the State should require? Should not the State exact a special standard for the treatment of special surgical diseases as well as a standard for the practice of medicine?

In our surgical work, including gynæcological and obstetrical practice, are we always as careful in our asepsis as we might be? In the preparation of our hands, of our patient, of the instruments, dressings, sheets, etc.; in coming in contact with an unsterile table, garment or the like, do we always observe the strictest asepsis possible? In the present day rush are we inclined to take chances on incising an abscess, introducing a uterine speculum or sound, or place the examining finger into the uterine cavity of a case of labor without observing the proper preliminary surgical cleanliness?

There are some members of our profession who, incredible as it may seem in this day and generation, reject the germ theory, and

others sufficiently regardless as to be practically "in the same boat," if you will pardon the expression. Some time ago a woman came into my care just at the point of death from an enormous pelvic abscess induced by the introduction of a uterine sound, which her physician took from his instrument case and used without boiling or any form of cleansing whatever a short time before. This is all the more deplorable since this same physician, who I am glad to say is not a member of this Society, claims to be somewhat of a surgeon himself. Vaginal incision and heroic after-treatment finally resulted in her recovery. It is not infrequent that wounds of apparent minor importance come into our hands suffering from violent infection or so-called "blood poisoning," just because the patient or attending physician failed to institute early antiseptic treatment, or applied an unclean rag, or germ-growing poultice. Have not we all seen amputation of a finger, hand, arm or leg, and even death result where a poultice had been used to "draw out a splinter" or other non-aseptic measures applied in minor wounds?

The laity are beginning to learn the meaning of asepsis and antisepsis, and we often hear expressions like the following: "I don't want a doctor whose office is untidy, or who is careless in his personal appearance, or who uses the same tongue depressor or speculum on me that he used on a previous patient without cleansing and sterilizing." Immaculate and surgical cleanliness is a necessity for doctors nowadays. The laity are becoming educated to observe these things, and the physician who wishes to secure and retain an intelligent clientele cannot be too careful in the cautionary but necessary practices. There is yet much for the laity to learn for their good, and it should be the duty of the physician not merely to minister but also to teach, to educate the laity against such practices as poulticing open wounds, the dangers of attempted abortions and the like, and how to avoid receiving or transmitting infections of various kinds, and to instil into their minds the use and application of the more common antiseptics.

One of the most brilliant operations in latter day surgery has been made possible by this advanced knowledge of asepsis in the invasion of surgery into the realm of diseased kidneys. This has been a field in which the surgeon has not dared to tread until the boldness of an Edebohls prompted him to undertake renal decapsulation for chronic Bright's disease. Had his efforts proved fallacious he would have been regarded as a reckless visionary, but the degree of suc-

cess which has been attained in this new field offers to the otherwise hopeless nephritic sufferer a reasonable degree of deliverance from the bondage of impending death.

This operation has been performed in more than two hundred cases, seventy-two by Edebohls himself. He says: "Gradually accumulating experience and knowledge of the final results in a sufficiently large number of cases to entitle me to an approximately final judgment have changed all this. I would consider myself derelict to duty imposed by knowledge gained from experience, if at the present stage of the question and of these conditions fulfilled, I failed to advise renal decapsulation for every sufferer from chronic Bright's disease who consults me, and who has a reasonable expectation of not less than a month of life without operation."

These three conditions, according to Edebohls, are: First, the clear and unequivocal establishment of the diagnosis of chronic Bright's disease; second, the absence in the given case of absolute contraindication to any operation; third, the possibility of securing the services of a surgeon reasonably familiar with renal surgery.

At first cases of interstitial nephritis were the only ones operated, but further experience has shown that parenchymatous and diffuse nephritis are likewise cured or benefited.

Cardiac hypertrophies and general ill health are improved. In cases of retinitis albuminurica the results are less favorable, and only on young subjects with this condition present would operation be justified.

The success attained in chronic Bright's disease has led to renal decapsulation in other kidney diseases, as acute nephritis, acute pyelonephritis, pyonephrosis, hydronephrosis, puerperal eclampsia of kidney origin, and polycystic renal degeneration. Some surgeons of note advise decapsulation of every kidney submitted to operation, as the new and increased blood supply thereby induced are of inestimable benefit to the diseased kidney. As suppuration is not well borne by the kidney, it is important that primary union be secured in the operation.

There is no need for me to mention the marvelous operations that are now performed day after day, operations impossible except with the strictest observance of modern asepsis. Anæsthesia excepted, asepsis has done more to advance surgery than any other known discovery.

THE TREATMENT OF CERTAIN INTRA-ABDOMINAL DISEASES FROM THE STANDPOINT OF SURGERY.

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PRELIMINARY NOTE.

At the risk of being misunderstood and even of criticism, I have endeavored in the following paper to write in a manner distinct from the books; and by way of preliminary I wish to announce that I am neither medical nihilist nor surgical fadist. My confidence in the true field of medicine and my faith in the possibilities of surgery are equally strong; but I wish in this paper to arouse thought and discussion on a theme not yet determined fully, and which shall assist us in defining the true field of medicine and surgery as separate departments of the healing art, to the ultimate glory of our profession and the good of mankind.

It may be recalled by some present that not many years ago medicine and surgery were considered by the extreme practitioner of each as antagonistic one to the other; and even to-day our profession numbers not a few who entertain the opinion that in the dynamic powers of the medicinal remedy internally applied, there resides a sufficient cure for all human ailments; and likewise, some others who believe that diseases are of two kinds: first, those which if let alone will get well without medication, and others which are curable only by the application of surgical principles.

It is certainly true that the medical practitioner and surgeon of not many years ago were far from being contestants on a friendly field of battle, and that in much the same manner as science and religion were supposed to be antagonistic, so were medicine and surgery believed to be opposed to each other. To those of the profession who have practiced for a quarter of a century or thereabouts this antagonism between the exponents of each method of practice will be more apparent than to the recent graduate in medicine, whose training and practice have been under the congenial atmosphere of a more united professional instinct. It will not be strenuously gainsaid that even as short a time as twenty-five years ago the surgeon fought his battles against the odds of an almost solid body of men in the profession to whom the knife seemed to work more havoc than it wrought good, and to whom operative suggestion was in most

instances tantamount to an insult against their therapeutic skill. No unjust reflection must be cast against this division of thought and practice: it is a simple statement of fact that the profession was seeking, through its special advocates, for the truth to evolve from a mass of undeveloped material, and that this effort, at first so crude, was being put forth along the lines then opening up for a correct solution of the innumerable problems presented by disease.

The various factors contributing toward the evolution following that period were just beginning to assume a working efficiency, and that for which it had taken centuries to prepare was now, through scientific endeavor, about to be consummated.

Medical art was soon to escape from its confusion of hapless entanglement and to be put into an orderly arrangement of ascertained and settled facts, thus aiming to become a science.

Surgery, striving amid the ruin of failures, held in check by opposition, handicapped by ignorance of its own powers, unfortified by later discoveries, and encouraged only by the indomitable energy of men who saw, even in one success, a prophetic vision of the future,—surgery, thus working, as it were, along the outer circle, was but beginning to penetrate into the inner realm where were to be wrought some of the greatest achievements of the world's history. Handmaids in the practice of the healing art, medicine and surgery were, from their respective standpoints, trying to solve identical problems.

There were then as now, diseases which by common consent, belonged either to the medical practitioner or the surgeon; but there were others about which battles royal were being waged as to whether the dynamic remedy or the surgeon's knife was then, or would ultimately be, the appropriate method of cure. To one who has watched or even now cares to study this contention of forces in the development of common thought in the occupation of a common ground whereon by a united effort are to be solved the problems of disease-conditions, the change has been as though wrought by a miracle.

Medicine has pushed forward with the co-operation of the anatomist, the pathologist, the physiologist, the bacteriologist, the chemist, the pharmacologist and other of its co-ordinate workers, and the progress it has made in prophylaxis, diagnosis and treatment has kept pace with the progress of human events in other directions.

By the discoveries she has made as to the nature of disease, and by

the methods devised for the treatment of diseased conditions, almost the entire aspect of medical practice has been changed in the past quarter century, and the sum total of human life and happiness has been greatly added to by the application of modern methods over those measures in vogue twenty-five or thirty years ago. Need we in this connection more than refer to two or three instances of the change made in our understanding of the pathology, history and treatment of cholera, malaria, yellow fever and diphtheria in order to forcibly bring to mind the wonderful advance recent years have witnessed in the practice of medicine?

Surgery has no sharper knives nor more pointed needles than she had twenty-five years ago, but she has been aided by the great discoveries that have enabled her to ward off gangrene, suppuration and septicæmia. The knife that was wiped off with a cloth, and then used in operating, with no thought on the part of the surgeon other than that it was clean enough for the work intended, was not known a quarter of a century ago to have carried destruction and death in the tissues it cut, because of the germs carried with it. The bacteriologist had not yet presented the surgeon with the principles of asepsis and antisepsis, without which surgical success was only occasional, but with the aid of which failure is now the exception, success the rule. Listerism paved the way for the more rapid evolution of surgery, and by reason of the safeguard it established the surgeon has been enabled to invade deeper into the tissues in search of disease in the effort to eradicate it and restore the parts to a normal or nearly normal condition.

Pathology has taken away much of the mystery of disease, and our increased knowledge of the processes of repair after operation has served more than anything else toward advancing surgery to the high point of efficiency occupied by it today.

Antisepsis and asepsis express in two words the great change wrought in surgical methods within the past twenty-five years, and those changes constitute the difference between a condition in which, to quote Beck, "Eighty per cent. of all wounds treated at the University clinic at Munich were affected with hospital gangrene, and the mortality from amputation reached 60 per cent., and in ovariatomy 50 per cent." etc., to one in which hospital gangrene is almost, if not altogether unknown, the mortality from uncomplicated amputations practically nil, and from laparotomy with all its complications about one or two per cent.

During the Civil War, those who witnessed any of its surgery will tell you of the great suffering of that period, and how surgery even in the hands of the most skillful was so crude as to make it a wonder that any recovered from it. Wounds were bound up in oakum, lint and old rags, gathered from sources likely to contribute toward infection; and often not even the ordinary cleanliness of soap and water was resorted to. Suppuration was the expected result; healing by first intention was the least expected and the least desired. Maggots in a wound were not considered especially strange nor altogether harmful, but the reason for their presence was not fully appreciated. Only here and there did an operator use more than ordinary care in his operative work and subsequent treatment; and when he did so, he stood alone among his confreres for results, but in spite of that he was usually regarded as unnecessarily fastidious. Good as were his results, it could not be generally understood that his clean methods had anything or much to do with the lessened mortality, the freedom from suppuration and the quick healing of wounds; in other words, with his successful surgery. And yet, this fastidious surgeon, this man who was especially clean, was paving the way, unconsciously, it is true, for the discoveries of Pasteur, Koch and others, who were about to usher in that era the birth and development of which some of us are so blest to have witnessed, and in whose beneficence we are partakers.

To the casual observer, modern surgery appears most wonderful in its achievements when it particularly has to do with the removal of a brain tumor, the evacuation of a deep cerebral abscess, the draining of a suppurating lung, the removal of gall stones from their impaction in the gall ducts, the amputation of a section of intestine and the ends successfully anastomosed, or an excision of an abscessed fallopian tube. But let this observer be a daily participant in operative work, and thus be made cognizant of the marvelous extent to which the art of science and surgery are being applied, then he does not so much lose himself in wonderment as that he lends himself to the calm contemplation of that which in the last few years has actually become commonplace.

In this great advancement made by surgery, let us not forget that medicine has also made wondrous strides, which, though effected more quietly, and with little semblance to the heroic, have nevertheless been as those of a giant.

Medicine in the last twenty-five years has revolutionized itself, and

if we may be permitted to use the expression, it is many times more comfortable and decidedly safer to be sick in 1904 than it was in 1879.

Advanced methods in diagnosis have practically made disease an open book, and we are enabled to determine many disease-states with precision. Not only that, it is now possible to go back to the original source of many diseases and trace the route from effect to cause. Plagues have thus lost their ravaging influence, and as in yellow fever, the bubonic plague, etc., they have often been stamped out entirely from localities when the sacrifice of human life and the loss to commercial interests have heretofore been tremendous and without let or hindrance.

Now this more scientific medicine and this more perfect surgery have had an effect upon each other which we might profitably study as it relates for our present purposes to at least one branch of the healing art—the diseases of the abdomen.

The cavities of the body have naturally been the subject of the deepest thought and the profoundest study on the part of the diagnostician and the pathologist, and the internal medicist and surgeon have awaited with great concern the announcement of each new fact promulgated with respect to the better determination of the organ diseased and the exact nature of its abnormal process.

Diagnosis is the alpha and treatment the omega of the physician's art, and nowhere have these been put to the test more than in the ceaseless effort to effect a mastery over the various lesions of the abdominal organs. It is not forgotten by the practitioner of a decade or two ago how *inflammation of the bowel* and *peritonitis* stood for nearly all we know of the diseases of the abdominal cavity. The autopsy table told the story of the gross cause of death, but in the then existing state of diagnosis and treatment post mortem findings gave to the practitioner merely a hint for guidance in his next case. To the scientific physician a post mortem hint is a living quantity pregnant with suggestion as to the gradual but ultimate solution of the numerous problems disease presents. This has been particularly true respecting the diseases of the abdomen. Here, as elsewhere in the human body, a cause exists for every pathologic condition and phenomenon: for instance, the presence in the abdominal cavity of pus, free or circumscribed, was not so long ago little more than an interesting and incidental accompaniment of inflammation of the bowels and peritonitis. That it was but the result of a process in

which pus was only a sequence capable of complete explanation was vaguely hinted at, but until the cause and effect were eventually well linked together as they are now the diagnosis of intra-abdominal disease was superficial and the treatment proportionately inefficient.

Some of us recall autopsies made in the '70's and early '80's in which the abdominal cavity contained pus and a diseased appendix. Who of us attributed the trouble to the appendix as a cause? That the appendix was within the suppurating area and was often its centre was not unknown; but that the very origin of the destructive processes designated as typhlitis and perityphlitis resided within the appendix and not within the cœcum or around it was practically left for Fitz in 1888 to theorize upon, to the effect that "Typhlitis, perityphlitis, paratyphlitis, appendicular peritonitis and perityphlitic abscess were all varities of one and the same affection, namely, appendicitis."

In all the changes that have taken place in the professional understanding of human diseasese, perhaps this particular change was the most wonderful, and in its far-reaching effects the most important; the most wonderful, because it gave a simple solution to a seeming complex problem which theretofore had defied solution, while thousands of deaths were yearly occurring from these causes; the most important because while death was selecting its victims in large numbers and the profession stood practically helpless to prevent its ravages, there suddenly sprang into the arena the saving grace of a correct diagnosis and a properly directed treatment.

Will I be accused of a bias if I ask, What was medicine, pure and simple, doing for these intra-abdominal conditions now known as appendicitis? Was it curing them? Did not a time at last come to the medical man when his professional conscience taught him that his internal remedies were powerless in so many of these diseases as to nearly, if not quite, convince him that perhaps they were of no power in any of them? As he and the pathologist and the surgeon had opened up to their gaze the falsity of past belief and had presented to them new truths for therapeutic guidance, did it not soon become manifest that respecting this class of cases, at least, the scope of the physician was narrowing, and that of the surgeon widening? This partial retreat of the medical man from intra-abdominal therapeutics was no disorderly scurry to the rear, but was the orderly retirement of a scientific body of men seeking to eradicate disease but who, after centuries of vain endeavor to achieve

results by the internal administration of the remedy alone, and finding that the other forces had successfully wrought achievements in the field where failure had been their lot, quietly, honestly, unbegrudgingly handed over to the scalpel, the ligature and the suture, the glorious work now done to the credit of abdominal surgery.

Let us consider in the most superficial manner, and more for the purpose of guiding thoughts for discussion, some of the various intra-abdominal conditions which have gradually demonstrated the helpfulness of the surgeon to the medical man, without which the latter is powerless to achieve equally successful results.

The stomach affords a brilliant example of an organ which frequently invites surgical intervention. For its proper functionating, the stomach should not only be in its proper position, but it should be of normal shape and size, freely movable, intact in all its parts, perfect in its glandular activities and capable of normal discharge into the intestine. Medicine is unquestionably powerless to restore a prolapsed stomach to its normal position, relieve an hour-glass contraction, render patent a ruptured ulcer, free the stomach from adhesions to adjacent organs, remove the organ in its entirety or put a portion of it out of service by drainage of the healthy part direct into the intestine, remove cancerous and other growths, or diminish the size of the organ. And yet, prior to the advent of abdominal surgery, medicine, as well as diagnosis would permit, was trying to do all of this through its indicated remedy.

The surgery of the stomach is a brilliant one and invites the general practitioner to a careful consideration of the various guiding symptoms by which, first, a correct diagnosis can be made, and second, the limitations of medical prescriptions shall be determined with a view to invoking surgical counsel and aid.

The intestine offers another field for surgery by its liability to growths and ulcerations; obstruction, by reason of twists, intussusception, adhesions, Meckel's diverticulum, hernia, etc. The internal remedy certainly does not inspire confidence in the treatment of affections so purely mechanical as these; hence, it becomes necessary for the general practitioner to diagnose his case early, and to differentiate between the indications for remedies and those for surgical treatment. Many, if not all, of these intestinal troubles were at one time, and occasionally are now unrecognized by the practitioner, and allowed to rest under the old caption of bowel inflammation. Stomach and intestinal disturbances are so apt to be ascribed to indigestion

and dyspepsia that the more serious underlying condition is overlooked.

The refinements of diagnosis are fortunately enabling the practitioner to detect nearly at their onset many of the disturbances of the gastro-intestinal tract, and especially helpful has been the modern day inveighing against the use of opiates for the general indication of abdominal pain. By covering up or masking the important symptoms, opiates given for the sake of ease to the patient cause great harm and add materially to the mortality. But in the absence of a clear insight into both the diagnosis and treatment of intra-abdominal disease, opium was at one time the usual remedy, and its administration was persevered in to recovery or death—usually the latter.

Fortunately, an era has opened in which the diagnosis has cleared the way for a rational treatment, and it has also greatly assisted in defining the attitude of the internal medicist toward those ailments. He has learned that vomiting, pain and increased abdominal tension are not always indigestion, to be met with by antiemetics, anticholeraics, opiates, turpentine stupes, or even the so-called indicated remedy, etc., but that they are often the symptoms of a profound intra-abdominal lesion, and that until traced to their source, these symptoms must be treated with great caution.

If the physician will carefully study his cases of so-called gastric and intestinal indigestion and dyspepsia, it will surprise him how many of them are beyond the realm of medicinal action and are fit subjects for the surgeon's knife.

Let him select dilation, hour-glass contraction or prolapse of the stomach for example, and what will he do for them by his remedies?

It is asking the indicated remedy to do a great deal to have any material effect upon these disturbed conditions, for however, seemingly direct may be their indications and well intended their efforts at cure, the mechanical problem cannot be solved in that way.

Surgery has effected excellent results in all these conditions. Numerous instances are on record of gastric and intestinal ulcers, non-perforated and perforated, which have long resisted the influence of internal remedies, having been promptly cured by operation. Dilated stomachs have been reduced in size, and their function restored; hour-glass contraction and other malformations have been corrected; prolapsed stomachs have been stitched up in a place; cancerous and other tumors have been excised with resultant prolonga-

tion of life and often with cure; great lengths of gangrenous and other diseased intestine have been resected and the ends of the normal gut united; obstructive causes of various forms have been removed; hernias have been reduced and the patulous vents strengthened; and an artificial anus has been established to secure evacuations *via artificialis* to give rest to the rectum or other parts of the intestine.

The liver and its appendages, the ducts and bladder, so frequently diseased by abscess, cysts, tumors and impacted gall stones, have also, to a very large extent, passed into the domain of surgery. Medicine struggled with these diseased conditions without avail until finally the surgeon ventured to lay the source of trouble open to view, and, by the application of surgical principles, removed the cause.

To distinguish and differentiate gall bladder and gall duct disorders very often requires the profoundest diagnostic skill; but if in all ailments of the upper abdominal quadrants, disease of these organs is given prominent thought, many obscure pains and disturbances now frequently ascribed to indigestion, etc., will be found to be caused by gall stones or some other surgical lesion.

The hint to be thrown out in this connection is that once the diagnosis of impacted gall stone or supurating gall bladder is established, internal medicine ceases to be indicated and surgery alone gives promise of cure.

The kidneys and ureters are frequently affected with diseases which are often treated medically when a differentiation would indicate that even if at one time they were amenable to drug action, they had passed that stage, and had become purely surgical. Recent events go far to prove that even chronic interstitial nephritis, confessedly incurable by drugs, has been carried over the danger line by decortication and the establishment of collateral circulation. This operation ranks high as one of the chief evidences of the value of modern surgery over pure medical therapeusis.

Renal and ureteral calculi and suppurative and tubercular conditions of the kidneys and their ducts are purely surgical, and yet how often, owing to failure in diagnosis and mistaken notions as to the curative properties of internal medication, these lesions are permitted by the lengthening out of their pathologic processes, to assume such proportions as to be, from the standpoint of the medical man, incurable. Falling into the hands of the surgeon so often at a time

when death has spread its chilly hand over the sufferer, and hope seems so far away, even the pronounced skill of the surgeon in that line of work appears unavailing; whereas, early in the history of the disease, surgical intervention would in all probability have been successful to a degree of almost actual certainty.

There is nothing intra-abdominal which is so likely to stir up discord between the extreme medicist and the radical surgeon as a discussion on appendicitis from the standpoint of either the medical man who does not believe in appendectomy or the operator who advocates amputation of that organ as soon as diagnosis of appendicitis is made.

In my hearing are doubtless some who find in the so-called indicated remedy sufficient potentiality for the cure of appendicitis; there may be also those who doubt that in this disease there is any efficacy whatever in internal medication. Between these two extremes there are many shades of medical and surgical opinion. I join forces with the surgical view of this question, and believe that outside of rest, local application of cold and intestinal evacuation, there is no internal remedy of the least service in curing appendicitis.

That this is a strong statement, I know, but I believe that if medical men could witness more than they do the pathologic changes wrought by appendicitis as seen in the operating or autopsy room they would agree with the surgeon more and more in the view that an inflamed appendix presents problems with the solution of which internal medicines, except for their mechanical effect, has naught to do. If the case gets well it does so mainly because self-limiting, excepting as aid may have been rendered it by changed environment. An appendix once inflamed never recovers. Pathologic changes occur which never disappear, hence it is a constant menace. The limitations of medical treatment should be well understood, and not one moment be allowed to pass between the boundary line of efficient medical treatment and appropriate surgical intervention.

Of low grade variety there is no other organ in the body so prone to irrecoverable change as the appendix. One attack of inflammation predisposes to another, which simply means that the inflammatory process of the one attack never thoroughly subsides. Recovery without operation from appendicitis is not recovery. There is an aggravation of pre-existing disposition to inflammation or strangulation made by every attack, which can not be effaced except by mechanical correction of the cause. There is no proving of any drug which has

anything in it approaching a pathogenesis similar to the pathology of an inflamed appendix. This organ may as well be out of the body as in it so far as action on it by any known medicine is concerned. By reason of disturbed nerve and circulatory function, no remedy will reach it. Ordinary so-called catarrhal inflammations are prone to subsidence, and when the appendix actually inflamed passes into a condition of quiescence, it is a delusion and a snare to believe that it is an equivalent to cure. To cure is to cause absolute positive return of the normal, and subsidence of pain, fever, ventral rigidity and restoration of intestinal function, with return of patient to his vocation, must not be assumed to be an equivalent to cure. The cause remains, the disease remains, and subsequent aggravation is bound to occur.

Here is where internal medicine has had to call in her handmaid, surgery, to remove from the abdominal cavity a useless appendage, prone to disease, and when so affected, absolutely fortified against medicinal remedies.

There is no conflict between medicine and surgery. It is simply the disturbance consequent on rearrangement of facts and conclusions. The truth of the one is not arrayed against the truth of the other; it is only that you and I may not see alike, and as we try to agree we champion the one or the other side with such energy as our beliefs may seem to warrant. Medicine loses none of its title to distinction when in view of its inability to conquer any certain pathologic or mechanical disturbance in the tissues, it hands the problem over to the surgeon. There can be no conflict between a demonstrated inability on the part of the one branch of the healing art to cope with disease and another which has made appendectomy timely and properly performed, an operation with practically no mortality, and which, best of all, gives greatest promise of curing the patient.

But appendectomy does not always cure. Patients have died after the operation, or complications with unfortunate sequelæ have occurred to mar the results of the operation. This is arrayed against surgery, and by some constitutes the *summum bonum* of their argument against surgical interference with appendicitis.

Some one arguing against surgery has said that "the fact that a patient is at the other end of the appendix must not be forgotten by the surgeon." In all candor is it not the surgeon who time in and time out urges for immediate operation following prompt medical

attendance and diagnosis, and who counsels with all his vigor against delay as increasing the liability to complications and mortality? Is it the surgeon who forgets that at the other end of the appendix there is a patient? Or is it the medical practitioner who, from one or another cause, practices conservatism so-called, is slow in diagnosing his case, rests under the delusion that there is a drug pathogenesis for his tissue pathology, and while he sits and waits the disease advances to the point of rupture and suppurative peritonitis, and then calls in the surgeon to apply a surgical method as a *dernier resort* to a patient almost dead? Is it then the medical man or the surgeon who is to blame because at the other end of that diseased appendix there is now a diseased patient?

Fortunately, the profession is fast learning that appendicitis in all its forms is a surgical disease, and that in its early stages the patient is practically not diseased. The ailment is local, but unfortunately enclosed, and it is this hidden character of the organ that constitutes the menace to the patient. It is necessary in order to properly appreciate the limitations of medicine in this disease to recognize the local character of a diseased appendix just as one would regard a finger that was sore. Each is non-systemic, but may soon become so as a result. If the practitioner will treat an inflamed finger with internal remedies and postpones the evacuation of the first drop of pyogenic fluid that may form until the bone has become diseased and may be the finger is lost, then I can understand he would also allow an inflamed appendix to advance to the point of abscess and rupture. Then it is truly systemic, and the patient is unquestionably sick. This is the sick patient at the other end of the finger, and at the other end of the appendix, which condition we wish to avoid by early and timely surgical interference.

A celebrated surgeon when asked to prepare a paper on the treatment of appendicitis said that, "It could be written in three words—a sharp knife." There is more to be said on the subject than this, but his remark was none the more abrupt than the statement of another physician whom I know, who says he treats all of his cases with olive oil and gets them well.

The patient at the other end of the appendix has something to say as to whether he shall be treated surgically, and it is not always possible to convince him that Colocynth, Bryonia *et al.* will not cure him. He asks for time, for conservatism, for postponement. The affairs of life crowd upon him and he defers the prompt removal of

the offending organ. Medicine is not responsible for this unless the patient simply fills the rôle of disciple to a teaching that is only too prevalent with some of our professional brethren, that appendicitis has no surgical side to it when appropriately medically treated, and as a result of this teaching he declines the offices of the surgeon and rears his faith like the man who built his house on the sands.

As referred to in the early part of this paper, no attempt has been made to make it complete or to include all intra-abdominal diseases which in the course of time have been demonstrated to be if not altogether surgical, yet essentially so, especially when far advanced.

So much of the subject has been included as to observe the purpose of an extended appeal to medical men:

1. That in certain intra-abdominal diseases, such at least as have been enumerated, there be recognized the inutility of internal medication, or, at least, its limitations.

2. That all of those intra-abdominal diseases which tend towards surgical complications be regarded at the onset as surgical, this being the safer plan.

3. That the greatest care be had that too great confidence is not exercised in the administration of internal remedies to these diseases, so that should the surgeon be eventually called in the case will not have gone beyond the point where surgery is of aid. This caution is mentioned because of our view that internal administration of remedies has a limited value in intra-abdominal diseases tending to become surgical, and no value when they have become surgical.

4. That in certain intra-abdominal diseases, as, for instance, appendicitis, internal remedies are not curative, but are delusive and cause the loss of valuable time.

5. That the duty of the medical man is to view every intra-abdominal disease from the surgical as well as the medical standpoint. The dividing line between the two co-ordinate branches of medicine depends only on the skill of the attendant. The therapeutic value of the scalpel ought to be as well known to the medical man as to the surgeon.

DISCUSSION.

Dr. W. G. Dietz: It takes considerable courage to make any remarks on a paper so pronouncedly surgical in its nature. In fact, this has been a day when medicine has been left in the cold. Sur-

gery has taken the ascendant and is a fixed star in the firmament of medical knowledge. I am almost afraid to speak in the face of the uncontroverted testimony of men of experience to call into question anything that has been said. The paper which has just been read is exceedingly well expressed, and yet there have been some statements made which I think should be challenged. Is it possible for appendicitis fully to recover? The author of the paper has said that it never does. I venture to state that it will, and it does. I am far from being a one-sided medical man. I am not a surgeon, but I am willing to concede, in fact, I believe that the safety of the cases lies in early operation, and put aside anything that might seem to be a one-sided view of the question, because, after all, every man will have to stand and will stand by his own experience, if he has had any, and every man who has been in practice twenty-five or thirty years has had cases of appendicitis. Such extraordinary cases as have been related today, where appendicitis has developed in hernia, and where no appendix was found, are so unusual I will not consider them, but I remember a case where a surgeon was called, and I wanted an operation performed, and the surgeon hesitated. I did not think that there was a possibility of recovery without the knife, yet this happened six years ago, and the man is still at work, is perfectly well, and has never had any recurring symptoms. I remember another case of a woman who commenced with distention of the abdomen and all the symptoms of fulminating peritonitis. All preparations had been made for an operation. The surgeon was there. I was desired to inspect the case. The case was not operated on, and she has had no symptoms since, which is between three and four years. A member of my own family, when a student in Philadelphia, was under the care of Dr. Van Lennep, had four or five recurrent attacks of appendicitis, and has had no sign of it for the last six or seven years. Can we not say a case that has remained practically well for that lenkth of time is cured? I think that if today there was an autopsy performed in these cases no lesions will be found. Are we prepared to state that such cases should necessarily be operated upon? In one case where I strongly advocated the intermediate operation, for some cause it was not performed. It was seven years ago, and the case has had no recurrence, and the patient has all the symptoms of perfect health. These are merely observations. They may be faulty. I give them for what they are worth, but I make the statement that in view of such observations, which are

shared by all medical men who are not too one-sided in their views, cases will and do recover. That does not do away with the fact that operation, as a remedy for all cases should be given preference, because it holds out the greatest prospect of safety and lessens the mortality.

Dr. G. M. Christine: I do not think it is necessary to say anything further than I have already said, except that in my paper I refer to a remark made by a prominent practitioner who followed the reading of this paper last year at a meeting of a medical society in Philadelphia, which was in skeleton form at that time, namely, that "Unfortunately surgeons forget that at the other end of the appendix there is a patient." The surgeon asks that the case be handed to him before the patient at the other end of that appendix is sick. He asks that the patient be a well patient. Therefore, he urges that cases of appendicitis and other intra-abdominal diseases which are surgical in their character shall be handed to him before the patient at the other end of the disease is sick. You know that cases can be put upon the operating table for an exploratory incision, as referred to by Dr. Van Lennep, and all cases will return to their beds to recover from the operation. The mortality from exploratory incisions in normal cases is practically nothing. It must be anæsthesia or something the surgeon has no control over which will cause the death of a patient after simple exploratory incision. The surgeon asks that a fairly good patient be at the other end of the appendix. Medical men unfortunately fail to recognize the fact that there is great necessity for them to diagnose the case, and to solve the question promptly as to whether it is a purely medical or surgical case. The medical profession is becoming thoroughly aroused to this fact, and papers such as that presented tonight by Dr. Van Lennep should open the eyes of all doubting men on this subject. That is why I felt, after the doctor had read his paper, that it was a most excellent argument in support of the paper which I was about to read. I have examined hundreds of appendices under the microscope, and still contend that no appendix which has been diseased ever recovers its normal character. There have been infiltration, destruction of the glands within the walls of the appendix,—probably adhesions have taken place, strangulation has occurred; something has happened to that appendix which neither medicine, time nor anything else can make well. The case the doctor refered to as one of fulminating appendicitis was evidently a

simple one of obstruction in some form, because the case got well without the serious effects which follow a ruptured appendix. All that the paper that I read asks for is careful diagnosis as to intra-abdominal disease, and for opportunity on the part of the surgeon to operate early.

EXCISION OF THE ELBOW JOINT.

E. R. GREGG, M. D., PITTSBURG.

It is not the purpose of this paper to discuss at length the indications for or the technique of this operation, but to show the results of two widely different cases and perhaps draw conclusions therefrom.

We may say in a general way that the operation is indicated in disease or injury where the destruction of the function of this joint is threatened, and in some cases of ankylosis, more especially where the ankylosed arm is in faulty position.

In disease the best results are obtained by an early operation, before the trouble has extended from the articular ends into the shafts of the bones concerned. Thus we may choose our line of section.

In injuries we may obtain useful new joints if we are not compelled to remove too much bone. Of course, it is only a case of injury which is found suitable now and then for this operation, the chief objection usually being that the bones have been too extensively injured.

In some cases, however, a flail joint (which may be reinforced by a proper apparatus) with good muscular attachments may be preferred to the outlook of ankylosis and possible compression of the ulnar nerve by callus formation.

Age is an important factor in the success of these cases. The operation promises the best results in patients of from twenty to thirty-five years of age, other things being equal.

Various external incisions are used by different operators with the object of exposing the bones to the best possible advantage. In the two cases here reported the posterior median incision of Langenbeck was used.

Case 1.—Robert B——, age 26. Patient sustained fracture of the

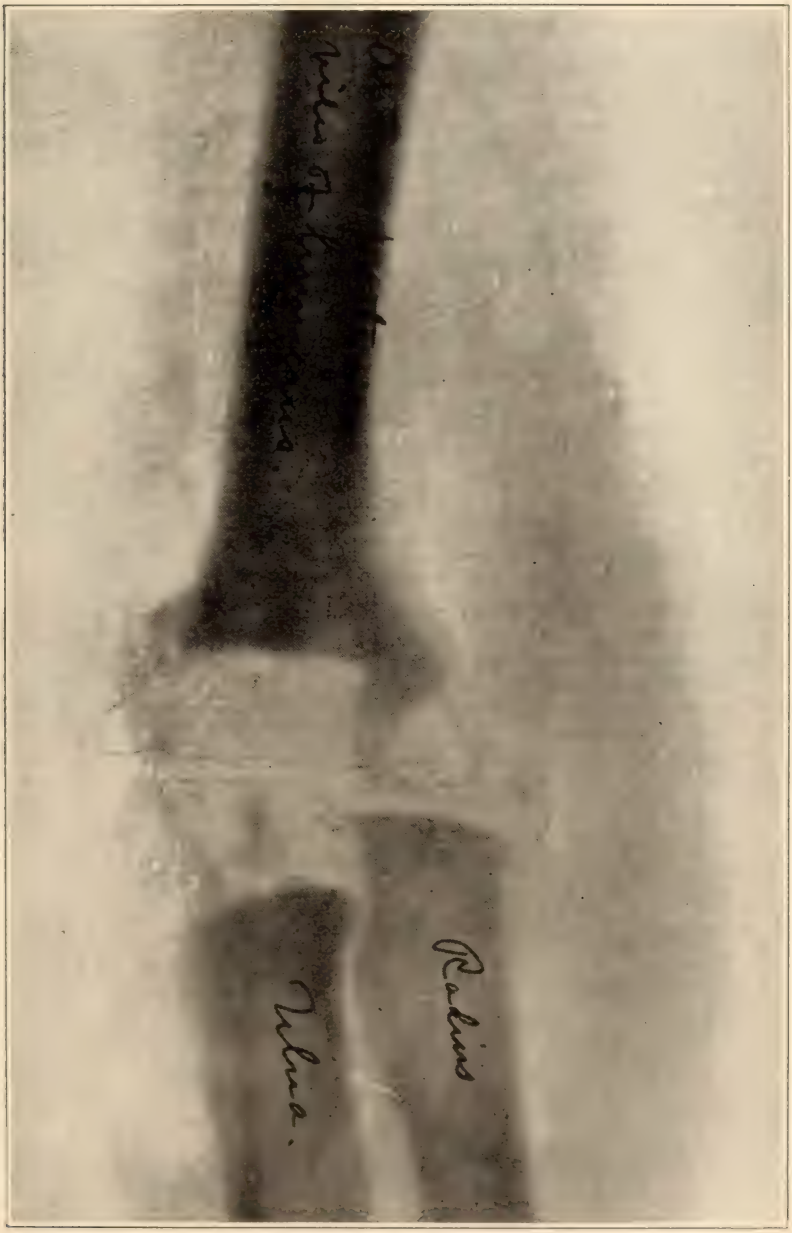

FIG. 1.—Excision of the Elbow Joint.

FIG. 2.—Excision of the Elbow Joint.

olecranon in 1902. Before firm union had taken place he was unfortunate enough to refracture it. He was at this time in the hands of another surgeon, who cut down and wired the fracture. Following this the joint became infected, very painful, red and swollen. He was suffering acutely when we saw him. The joint was opened, free pus was found, and the ulna presented myelitis. Excision was done and drainage introduced temporarily. The patient progressed favorably, and now has practically full use of his elbow. The photographs tell the story more clearly than can otherwise be done.

Case 2.—Mr. W——, age, 46. R. R. employee. Fell from car, sustaining very severe compound comminuted fracture of left elbow joint. The humerus was so comminuted and the soft parts so lacerated and bruised that an excision seemed to be the only hope of saving the arm, and it was doubtful if that would be a success, functionally. The whole lower portion of the humerus was crushed into small pieces (as shown by the radiograph), so that there yas no choice of the line at which to make the division of the humerus; it was already made. All that could be done was to remove the ends of the radius and ulna and trim off the splinters from the humerus. The wound healed in the course of time, but the patient to date has a limp, weak elbow, with only slight power of flexion. It is now three and one-half months since the operation, but it is possible he will gain more power or use of it than he has at the present. The radiographs of case two show the elbow just after the accident and also fourteen weeks after the excision.

A study of the radiographs of case one shows very nicely how the new joint becomes more perfect as time goes on. In the set taken February, 1903, the wide space between the sawn ends of the bones is shown, while in the set taken September, 1903, seven months later, the space is seen to be much lessened and articular surfaces are shown to be worn on the lower end of the humerus. The photographs of the patient himself show what a useful elbow he has. In this case the proper amount was removed from each bone except the ulna. It was necessary to remove a considerable portion of the ulna because of osteomyelitis. In case two we were compelled to remove the fragments as we found them, and the functional failure in this case may be due to too great a loss of the humerus. On the other hand, if one does not remove a generous amount of bone, ankylosis results. One is very apt to err by removing too small a section of bone, especially from the humerus. The section of the

humerus should be made above the coronoid and olecranon fossa so that the entire fossa is in the excised portion. The section of the ulna should be just above the insertion of the brachialis anticus, thus removing the olecranon and coronoid processes and lesser sigmoid cavity; following across to the radius in the same line, we find our saw just below the head of the radius, which is the proper point to divide this bone. In freeing the olecranon, the triceps is split longitudinally and carefully separated down to the level of the line of bone division, care being taken to preserve the attachments to the ulna below this line.

The radiographs in both cases show nicely the callus and new bone formation.

DISCUSSION.

Dr. J. D. Elliott: We have all heard Dr. Gregg's excellent paper with great pleasure, and I particularly, as I am familiar with both cases, and have followed them to their present condition with much interest. In his paper, Dr. Gregg has confined himself almost entirely to the clinical history of the two cases. Having been asked to discuss his paper, I would like to bring out a little more in detail the indications for the favorable results of the operation.

The indications for the resection of the elbow are:

1. Tubercular disease. This is by far the commonest cause for resection, and operation is indicated when the disease has resisted more conservative treatment, when no other tubercular foci can be found, and when the power of repair appears sufficiently great.

2. Compound fractures in which the joint is widely opened.

3. Gunshot wounds with much destruction of tissue. These two injuries are similar in result, and can be considered together. A decision rests between an amputation and a resection. In military surgery resection or the conservative operation is, in all suitable cases, now considered to be the best treatment. The age and general condition of the patient must be carefully considered before making a choice. Most of the statistics in this class of injuries have been taken from our own Civil War and from the Franco-Prussian War. In these statistics the primary operation has had a much lower mortality rate than the operation performed three or four weeks after the injury, or during the state of inflammation. But the functional results have not been so good, flail joint being common,

FIG. 3.—Excision of the Elbow Joint.

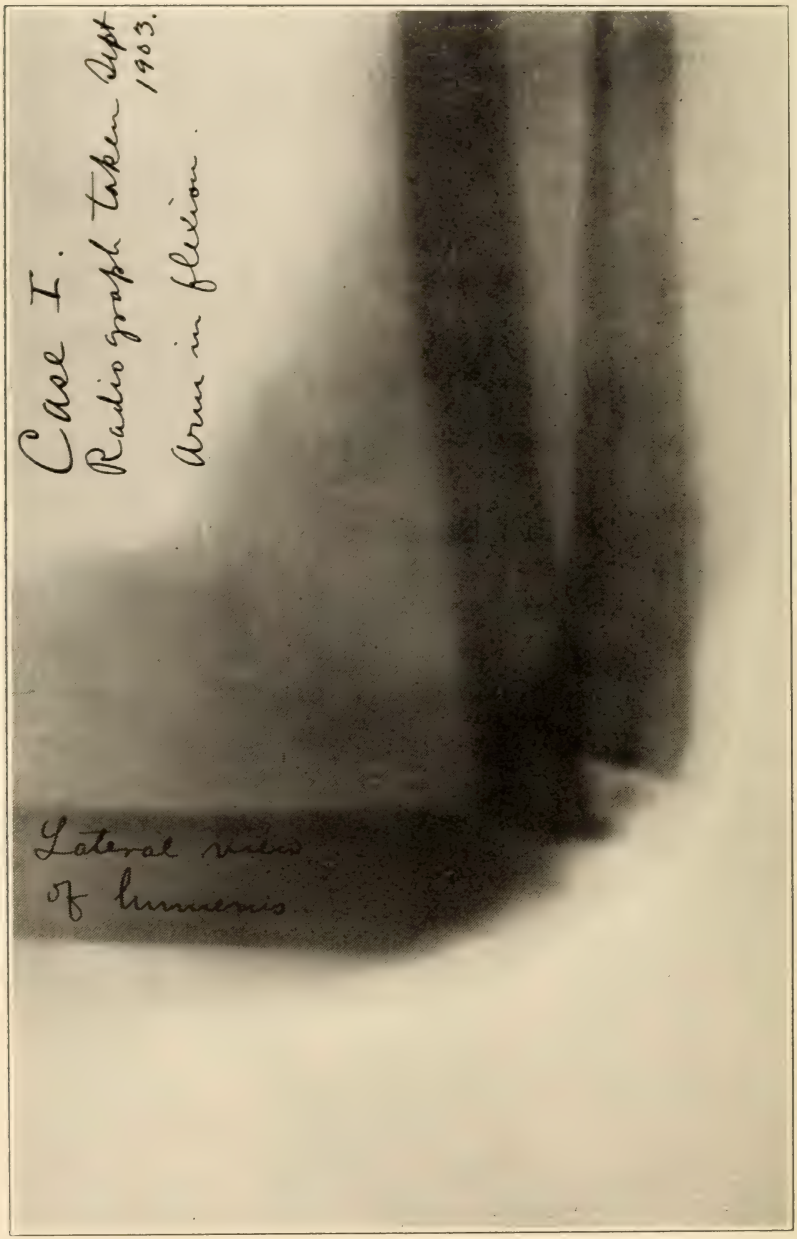

FIG. 4.—Excision of the Elbow Joint.

probably on account of the large amount of bone removed, and the poor reparative power of the inflamed periosteum. With our present antiseptic methods the mortality of the secondary operation has been greatly reduced, and today military surgeons consider primary resection as obsolete. Operation after four weeks is more difficult to perform, so the time of election is in the third or fourth week.

4. T or Y fractures of the humerus. Accurate reduction under the Roentgen rays, if possible, careful retention and a not too long period of immobilization will do much to give a good functional result and make operation unnecessary. But it is often difficult, if not impossible, to reduce and hold the fragments in place. Kocher has removed the external condyle in many of these cases and has found no loss of function to result.

5. Irreducible dislocation. A dislocation of the elbow usually becomes irreducible after four weeks, and very few successful cases of reduction are on record after a period of two or more months. Therefore, some kind of surgical treatment is necessary, not only to restore function, but also on account of neuralgia, œdema, etc., due to pressure upon the nerves, vessels and other soft parts. Several operations offer themselves. Trendelenburg saws through the olecranon, reduces the dislocation and sutures the olecranon in place again. Von Eiselberg opens the joint by two lateral longitudinal incisions and divides or excises all growths, cicatricial bands, soft parts and fragments of bone. Reposition is then possible in every case, and after reduction any bands which interfere with free motion are divided. Occasionally it may be necessary to resect the head of the radius. Passive motion is commenced in from three to five days, and is energetically kept up for weeks. This method has given very good results. The average motility in Von Eiselberg's cases having been flexion to 60 degrees, extension to 160 degrees. Von Bruns does a partial resection, removing the lower end of the humerus. Jacobson advises a complete resection in all cases of children and in adults, except when a partial resection will give perfect freedom of motion.

6. Separation of epiphyses of the lower end of the humerus. In the majority of simple cases judicious treatment, including early reduction under an anæsthetic, and putting up the arm at an acute angle will give a useful limb. In compound cases and in simple cases when the joint remains fixed at a useless angle, four to eight weeks after the accident, when the ankylosis is clearly intra-articular

and when the breaking down of adhesions is constantly followed by a recurrent inflammation, pain, swelling, etc., a partial or complete resection depending upon each individual case is called for.

7. Disorganizing arthritis. From pyæmia, suppuration, the infectious diseases, etc., when the joint is widely opened, and the cartilages are badly destroyed, without an operation, a stiff joint is the best result to be hoped for. Here again the general and local conditions must be carefully studied before deciding upon operation, and when there is danger of septic cellulitis or osteo-periostitis, following the operation, it is better to wait until the inflammation has somewhat subsided.

8. Ankylosis. If the arm is ankylosed at or near a right angle, and the hand is useful, it is better to leave it alone, as there is always danger of a loose joint after resection. When the arm is fixed in an extended position, a resection offers a very good chance for a useful arm. The operation is much more difficult to perform under these conditions than under any other.

9. Re-excision. In case of flail joint when the arm is useless even with a supporting apparatus, and when the muscles are not hopelessly wasted, and there is no neuralgia, a re-excision should be attempted before amputation.

The Operations.—The best operation is that of Langenbeck and Kocher. This incision is a straight one, about four inches long, midway between the condyles and directly down upon the humerus and olecranon, splitting the triceps.

Unfavorable results of excision are:

1. Persistence of tubercular disease. This is especially liable to happen when the disease has extended past the capsule and has burrowed among the soft parts.

2. Caries and chronic osteo-myelitis. These are not unlikely to supervene when the reparative power is poor or the wound becomes infected.

3. Ankylosis, especially in children, as there is a great tendency of inflammatory products to organize quickly in early life, and there is difficulty in getting these patients to use the joint.

4. Flail joint. The joint may remain weak for a long time, and then the muscles become firmly attached and a useful arm results. Friction and galvanism should be used perseveringly.

Active flail joints, *i. e.*, those with strong muscles, may be very

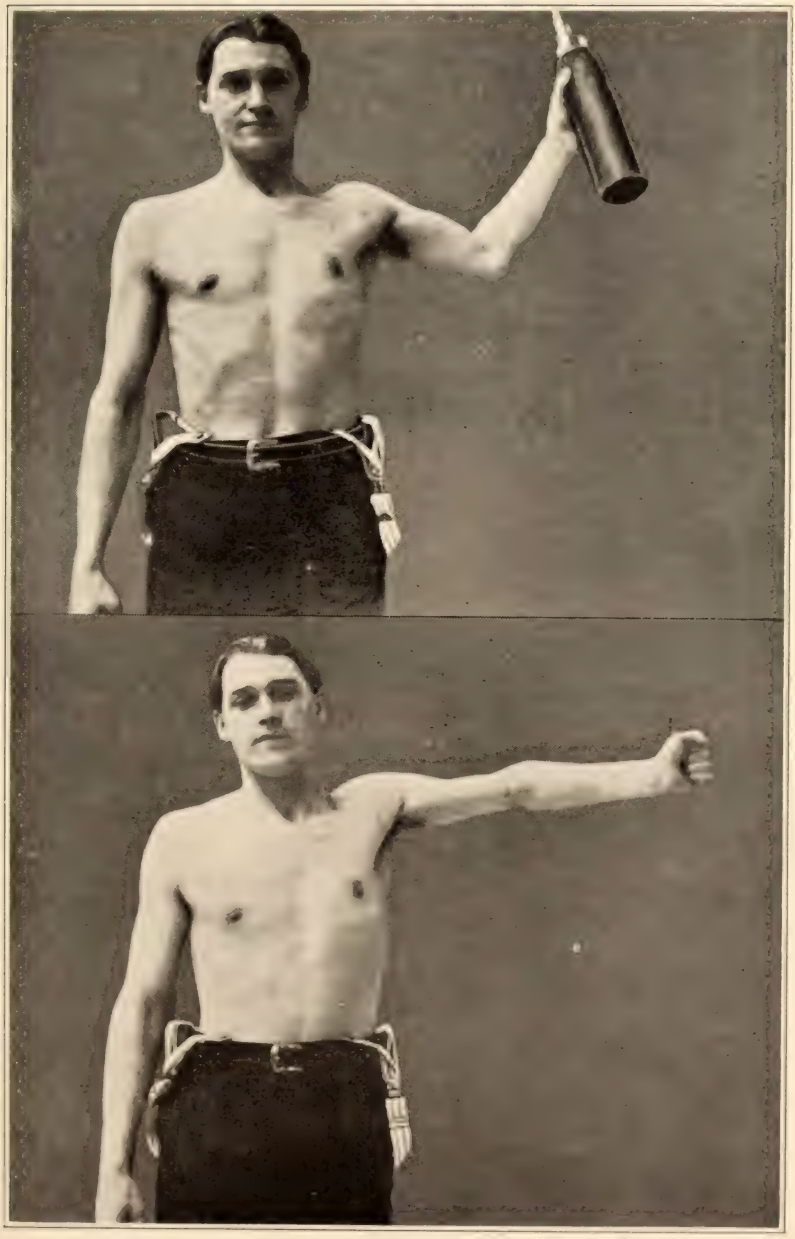

Fig. 5. — Lower.] —Excision of the Elbow Joint. — Fig. 6. — Upper.]

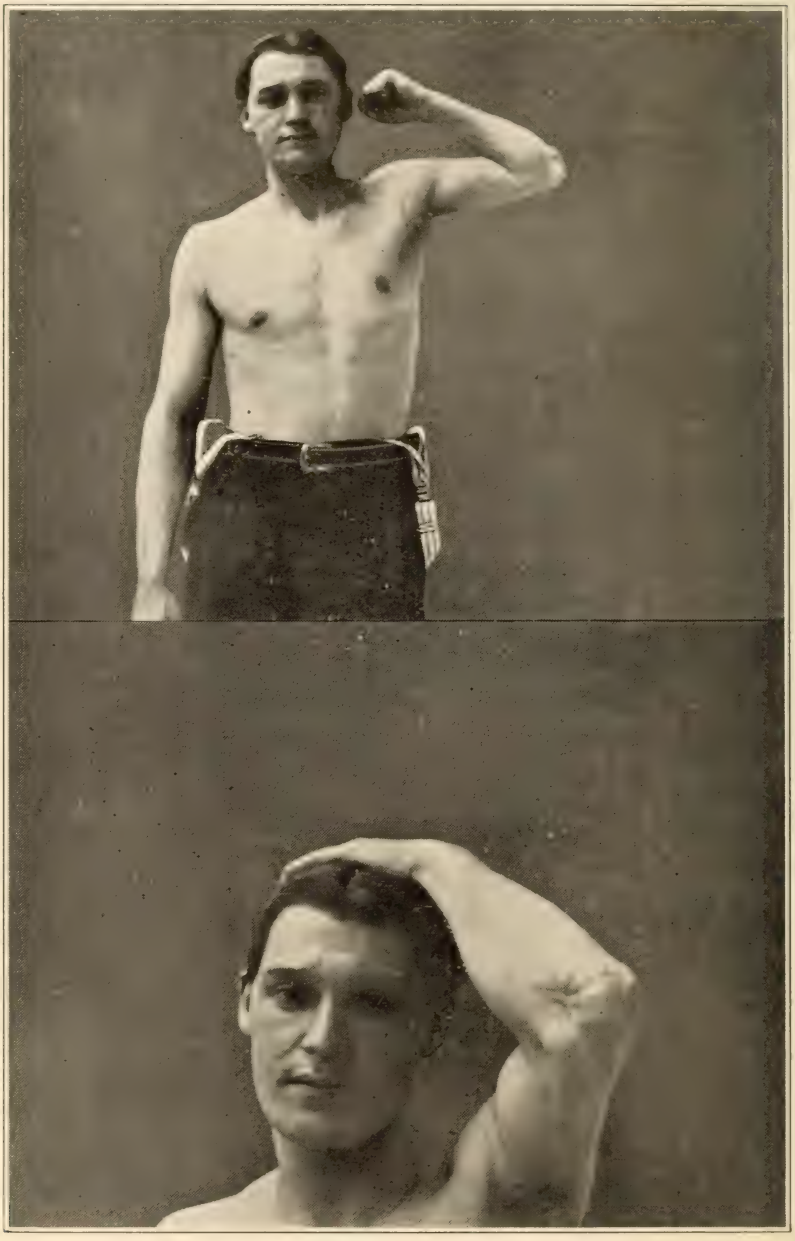

FIG. 7.—(Upper.)—Excision of the Elbow Joint.—FIG. 8.—(Lower.)

Fig. 9. – Excision of the Elbow Joint.

FIG. 10.—Excision of the Elbow Joint.

useful, especially when aided by a support, and in young patients a gradual and great improvement may take place.

Passive flail joints which are useless on account of great muscular wasting.

5. Injuries to the ulnar nerve with resulting interference with motion, sensation and nutrition.

DR. E. R. GREGG: These photopraphs illustrate the case. These radiographs taken three months after operation, show the line of section through the humerus, radius and ulna with some of the new callus, the bone formation. This (Fig. 1) is in the extended position, here in the flexed (Fig. 2). These photographs or radiographs (Figs. 3 and 4), taken ten months after the operation, show the contraction of the joint, that is, of the soft parts, muscles and all, making a new joint, and even here you see the articular fascets worn by the resected radius and ulna. There (Fig. 1) is a radiograph taken three months after operation. Here (Fig. 3) is a radiograph taken ten months after operation. You can see the straight line across all three bones as produced by the saw. There is, as you see, a diminution of space between the forearm and the arm, and what is almost a new joint. Here we have a photograph of the patient himself, and what he can do with that arm. Here (Fig. 5) he holds his arm out straight. Here (Fig. 6) you have him holding one of those oxygen tanks which weighs 6 pounds and 13 ounces. He is not able to hold that absolutely straight. He holds it flexed because the weight is too much for the elbow. He has every motion he had before (Figs. 7 and 8), but not quite the strength in his elbow he had before the operation. That is one case which we may count fairly successful. The other one is a case of failure functionally, at present at least. Here (Fig. 9) is a radiograph of the fracture, the radius and ulna below the fracture here. I would not attempt to count the pieces. It was a compound comminuted fracture. Here is the same case after admission to the hospital. This (Fig. 10) shows all the fragments removed, and, of course, the line was already made for us. We have no satisfactory result here. Here is a little string of callus and ossification extending down. It shows rather prettily the formation of new bone.

The only thing I think of saying in closing the discussion is to call attention to the necessity of obtaining in these cases an elbow joint that is successful functionally, and it seems to me from a very limited experience that attention should be called to the fact that one is more apt to err on the side of removing too little bone. If there

is a choice in the line of section of the bones we are very apt to try to save, and in that way not remove enough of the humerus. That is a point I would like to bring out. It seems to me after you have done your resection and you have a space of an inch to an inch and a half or two inches between the ends of your resected bones, you feel you are going to have a flail joint, but as time goes on that space fills in and you find while your joint may be flail at first, after a few months you get a useful joint, whereas if you try to save bone in excising the joint you get ankylosis, which is perhaps more serious than the original condition.

ANAL FISSURE.

GEORGE B. MORELAND, M. D., PITTSBURG.

Pathologically insignificant, anal fissure seems hardly worthy of space on the program along with subjects of wide import, presented in that scholarly and scientific manner that always characterizes the work of my confreres on this section.

Insignificant pathologically, lacking in almost all the elements that make for interest from that standpoint, there are, however, few diseases in the whole domain of surgery, which, while of such limited extent, produce more extreme misery to the patient, and in which, treatment appropriately applied, is productive of more certain and ultimate success.

The intense local and general effect produced by this comparatively slight lesion, its frequent occurrence, the ineffectiveness of many treatments suggested, and the extraordinary length of time persons afflicted with this trouble go without relief, is sufficient warrant for introducing this subject to your attention.

Anal fissure, or irritable ulcer of the rectum, these two terms being used synonymously, includes ulcers in the field of the sphincter muscles, and is primarily a simple breach in the mucous membrane, or the muco-cutaneous surface, resulting perhaps in an ulcer distinct, however, from those destructive and extensive types accompanying tuberculosis, syphilis, chancroid, etc., concerning which it is not the province of this paper to treat.

This ulcer may involve both the mucous and submucous coats, exposing at times fibres of muscle. It is usually located just within the

anus, beginning at the muco-cutaneous junction, Hilton's white line, and extending upward toward the rectum for a distance seldom exceeding half an inch. It may occupy any position of the circumference of the anal region, but its usual site is at the posterior or coccygeal side. Although usually solitary, it is sometimes multiple, especially if of syphilitic origin.

It occurs in all ages and conditions of life but is more frequent in the young than in the very old. In infants the disease is very likely to be the result of hereditary syphilis, but not necessarily so. Dr. A. Jacobi is of the opinion that it is more common in children than generally supposed, and thinks that some fretful, peevish, sleepless babies may be so on account of fissures present.

Kjellberg says that among 9,098 children examined, he found 128 cases of fissure, the majority less than one year of age, and seventy-three less than four months. Think for a moment of those 128 "colicky" and "teething" babies, and when called upon to treat cases with symptoms similar to those suggested by Dr. Jacobi, perhaps without effect, consider the possibility of fissure and act accordingly.

Fissures may originate in any wound, excoriation, eruption or inflammation around the anus. Anything which weakens the tissues and renders them liable to abrasion will act as a predisposing cause.

Persons with a tendency to abnormal conditions of circulation in the abdomen from nervous reflexes or inflammatory causes or irritations in the domain of the sexual organs are liable to have the excitability of the bladder and rectal sphincters become abnormal in turn, and if the functions of the bowels are not kept in order, or the irritating causes removed, hard fæcal masses may accumulate in the rectum, and produce an acute or chronic disturbance of its functions. The most prominent symptoms of such a condition is cramp of the sphincter ani and desire for defecating leading to straining, which aggravates the arterial and venous congestion present, until all desire for defecation is resisted, and further contraction of the sphincters takes place. After such a condition has arisen, any movement of the bowel may give the breach in the mucous membrane necessary for the beginning of the ulcer.

Proctitis and anitis favor the breaking and cracking of the skin and mucous membrane, which is the initiative in forming an anal fissure. Dry and inelastic conditions of the skin due to local causes or systemic disease may give rise to this trouble.

Any condition, local or remote, that through the nervous re-

flexes irritates the anal sphincters and sets up a spasmodic contraction of those muscles, or a sphincterismus, if your please, may be the cause of anal fissure.

When fully developed the symptoms of this lesion are so characteristic that it is almost impossible for a diagnostic error to be made. The patient may not be able to designate just when the symptoms began, but will state that some time previous he felt, during or after an evacuation of the bowel, a burning pain. Since that time, he usually states, it has been gradually growing worse until now the pain and suffering are almost more than he can bear. The pain occurs during or shortly after each evacuation of the bowel, gradually increasing in severity until almost unbearable, then gradually declining, until there is entire subsidence of the pain, until the next evacuation, postponed as long as possible, brings forth the same train of symptoms. The pain is so severe at times as to incapacitate the patient for work, and may compel him to go to bed, as the slightest movement may increase the intensity of his suffering.

Acute pain, lasting only a few moments, is ordinarily due to superficial fissures, which involve the uppermost layer of the muco-cutaneous tissues. The pain that comes on just after stool is ordinarily due to an ulcer between the radial folds, especially in the posterior commissure, and a sentinel pile usually accompanies it. The dull, aching, throbbing pain, which comes on some time after stool, when, perhaps, the patient thinks he has escaped his usual suffering, is ordinarily due to a fissure situated in the upper part of the anus, and involves the internal and upper part of the fibres of the external muscle.

These late pains then indicate that the ulceration is high up, while those occurring early indicate a lower situation.

The more muco-cutaneous tissue involved the greater the pain. This is due to the fact that at the muco-cutaneous junction a greater distribution of nerves takes place than at any other portion of the anal canal.

Reflexes from the rectum caused by the presence of a fissure produce just the same disturbance upon the system as do reflexes from the vagina, uterus or other organs of the sexual apparatus, with which, perhaps, the most of us are more familiar.

Both arise by means of the sympathetic, and both result if persistent in malnutrition.

The reflexes seem to alter, that is, stimulate, depress, or produce

irregularity of the circulation in distant parts. It is well known that young girls who have a uterus badly developed or anteflexed, suffer from constipation and rectal troubles, and, conversely, women possessed of rectal trouble may soon acquire uterine trouble. It is due to reflex action and the induction of circulatory and nutritive changes in that organ through those reflexes.

When a fissure is of long duration the general health becomes greatly impaired as a result of constant pain. The countenance grows careworn and sallow, the appetite poor, and there is more or less emaciation associated with the general appearance of a person suffering from serious organic disease.

A diagnosis can usually be made on the subjective symptoms alone, but a careful local examination should be always insisted upon, as other diseases may simulate this.

To make the examination, the patient should be placed on the left side and the thighs flexed upon the abdomen. Gently pulling the buttocks apart, an inspection of the external anal surface should be made. If there is a sentinel pile or the ulcer is low down, a diagnosis can be promptly made.

Palpation will reveal the hypertrophied condition of the sphincter muscle, and may enable one to locate the point of ulceration, as pressure on the anus gives pain below the site of the ulcer.

Pulling the buttocks further apart, one can partially evert the anus and bring into view sufficient of the field to diagnose an ulcer. If not, a finger, well lubricated, and gently inserted, pressure being used opposite the supposed site of the ulcer, will usually make one certain of the condition present.

To those who treat most of the rectal diseases in their offices, an inspection and palpation, such as above suggested, is usually a sufficient examination, as any complicating condition can be treated after the initial treatment, which will be later suggested.

If non-operative or palliative treatment is to be applied, a further examination of the anus by means of a speculum, the conical variety with thickened lips being preferable, in order to completely expose the ulcer to view, discover any complicating troubles, and apply appropriate treatment. The use of some local anæsthetic should precede the introduction of the speculum.

The treatment of this condition has been divided into palliative and operative, but might more properly be designated non-operative and operative.

The palliative, or non-operative, is successful in some cases, but is not, as a rule, satisfactory to either patient or physician.

It consists in attempting to tone up the general system by means of such medicines as may seem indicated, the use of some local applications to cause the ulcer to heal, and the removal of all local complications, such as polypus, sentinel pile, etc. At the same time the bowel evacuations should be regular, and of such consistency that the movements are neither hard nor liquid.

Preceded by the application of orthoform or varying strengths of cocaine, or other local anæsthetic, such applications as pure ichthyol, nitrate of silver in varying per cents., carbolic acid, or other medicaments similar in their effect have been tried and found useful in this affection, particularly when the fissure is of recent origin. All are more or less painful, frequently ineffective, and when by their use success seems almost attained the fissure may revert to its original condition, to the disgust of the attendant and the great discouragement of the patient.

If the sphincter is hypertrophied, hard and spasmodically contracted, if the ulcer is deep and indurated at its base, with its edges thickened, and the so-called sentinel pile well developed, one can hardly expect to produce a cure by other than operative interference, The average length of time taken for treatment by non-operative means is about four weeks, although great relief may be obtained in less, and none in more.

On none of the measures suggested can one rely.

Prompt, permanent, painless, a divulsion of the sphincter muscles, first introduced by Recamier, always accomplishes at once what other methods take weeks to do, and far surpasses all other forms of treatment in certainty of cure and rapid healing of the fissure. Devoid of pain in its performance, assurance can be given that all the intense suffering will be a thing of the past, and the next evacuation of the bowels be practically painless. In many cases no further treatment of the fissure is necessary, the lesion healing spontaneously. If a polypus be present, it should be removed; if a sentinel pile, it should be excised, either at the time of the divulsion, or under a local anæsthetic at a later period; and, if found necessary, some local application used to stimulate the healing of the ulcer.

What persons suffering from this disease desire, and the word "suffering" is used advisedly, is relief from pain, and no other measure can more promptly render such relief.

Some have suggested that an irritable or spasmodic sphincter is the cause of all anal fissures. While not advocating this belief, we know that such a condition always accompanies anal fissure, and in long-lasting cases produces such a permanent strengthening of the muscle that though by non-operative means one is able to cure a fissure, the sphincterismus, tending always to reproduce the trouble and surely causing some disturbance through the reflexes, remains.

A divulsion not only relieves the pain of the fissure, promotes prompt healing, assures permanency of cure, but also destroys the irritability of the muscle, which may have been present before the fissure, and thus tends to prevent the formation of hæmorrhoids by relieving the obstruction to the circulation caused by sphincteric irritability and helps to dissipate reflex symptoms emanating from the same cause. A divulsion having been performed, and relief from pain having been given, whatever local or systemic treatment may be indicated can be instituted.

The anæsthetic employed should be one that is as safe as any drug that produces unconsciousness can be, that, while producing insensibility to pain, still permits the muscle to retain its resistance and tone to almost its normal extent, and, as the divulsion requires but one or two minutes at the longest, that will quickly produce insensibility and almost as quickly permit a return to consciousness. Nitrous oxide gas answers these requirements admirably. From reports from those using it, in the absence of nitrous oxide gas, kelene is worthy of trial.

Various instruments have been devised for performing a divulsion of the sphincter muscles, but none compare with digital manipulation in accuracy of results obtained, and in the intelligent application of the proper amount of force requisite in each case that presents itself.

In describing the performance of divulsion, I can do no better than quote from an article presented before this Society by Dr. T. L. Adams: "The patient having ben placed in the Sims's position and anæsthetized, with the index, middle and third fingers of each hand well lubricated we commence our operation by the introduction of the index finger, making gentle traction. As we feel the relaxing effect of such manipulation, the middle and third fingers are successively introduced, and the traction continued with necessary force, its direction being midway between the antero-posterior and the transverse diameters, thus avoiding the coccyx behind and the

pubes in front and the tuberosities of the ischia on either side, in this manner obtaining the greatest possible amount of space in which to work. The divulsion having been carried to a point at which we feel the resiliency of the muscle about to give way, we, finally, with the aid of the thumb on the cutaneous surface, evert the entire pile-bearing inch, when the operation is complete." Our object is not to paralyze the muscle, but rather to destroy its irritability, leaving it abundantly able to perform its physiological functions. The pain following divulsion is insignificant, and I have seen no cases in which hot water applied would not give prompt relief. An evacuation of the bowels can be had the following day with but slight discomfort, and there is no return of the agonizing pain if the divulsion has been well performed.

It has been said that to divulse a sphincter for a fissure is "like using a club to kill a mosquito." However true this statement may be, it is squally true that when a mosquito is hit with a club wielded by a properly applied and intelligent force, it is seldom capable of giving further annoyance, and a fissure rarely if ever returns to life after a divulsion has been properly performed.

In conclusion, and partly in recapitulation, in view of the extraordinary length of time persons suffer with this trouble, I would urge the early recognition of this disease, and when suspected, that an inspection be insisted upon, in order to determine whether the trouble suspected exists, and in that event that appropriate treatment be applied. I would urge that wherever possible a divulsion instead of other treatment be instituted, as not only will the pain be promptly dissipated and quick healing of the ulcer insured, but the irritability of the muscle, which may have been present before the fissure, will be destroyed, and by so doing the obstruction to the circulation, caused by sphincteric irritability, will be relieved, thus tending to prevent the formation of the hæmorrhoids, and, in addition, whatever reflex symptoms, if any, may be caused by the sphincterismus will be relieved.

DISCUSSION.

Dr. Hills Cole: The writer of this paper, from his experience in rectal diseases, will, I am sure, bear me out in saying that a large number of patients who come to a man with more or less reputation for rectal diseases have an idea that anything connected with the

anus must be piles, and there is also an opinion wide-spread in the community that piles can be treated without operation, so that many patients suffering from fissure in ano are looking for a non-operative treatment. The doctor has referred to the fact that antiseptics must be used. We must choose the one which will present the least danger to the patient, so that there are two reasons why, if possible, we should look around for non-operative treatment of these conditions, and I am happy to say that my experience with the high frequency electric current leads me to suggest that to any who have not had experience with it. The high frequency electric current, I believe, is going to prove one of the greatest factors in the practice of medicine, and in rectal conditions, particularly, it is having a wide field and doing most excellent work.

NEPHROPEXY ACCORDING TO THE METHOD OF EDEBOHLS.

H. L. NORTHROP, M. D., PHILADELPHIA.

Among the many attractive "fields" open to the surgeon of today that of the kidney, its diseases and injuries, offers inducements second to none. The frequency of renal calculi, of pyo- and hydronephrosis and of movable kidney, cannot pass unnoticed, while contusions and traumatic ruptures demand prompt recognition and skilled surgical interference.

The excitement caused among both profession and laity by the publication, in 1901, of Edebohls's method of nephropexy, an operation found to play a dual role, although originally designed to serve but a single purpose, is a good illustration of the interest manifested in kidney troubles, and the welcome given a duly accredited means of cure. But the field is a broad one, and there are many renal problems yet unsolved; even the value of Edebohls's method for the fixation of movable kidney and the relief of chronic interstitial nephritis, for which so much has been claimed by its originator, is *sub judice*.

There has been a significant silence upon the part of surgical writers up to the present time regarding the merits of the Edebohls's decortication method, and it is to be assumed that they are very wisely awaiting results. Within the next few years probably many reports upon the subject will be made. It is now three years since the

publication of Edebohls's original paper in which he advocated decortication for the relief of Bright's, and very few surgeons have so far reported any experience with the new method. While Guiteras, Fuller, Cabot and Elliott are very enthusiastic over the promising results, Porter, in a most able and scientific paper (Medical Record, September 27, 1902), believes that "operative interference, like any other single and limited method of treatment, is liable to be disappointing in most instances." He is right. Any "single and limited" plan of treatment of a disease like nephritis is apt to be disappointing, and I cannot refrain from calling attention right here to one of the most glaring faults and weaknesses of the profession, viz., in athletic parlance, a lack of team work. In other words, the general practitioner and the specialist do not pull together. With what seeming avidity one member of the profession will wash his hands of all responsibility in a case, and dump the patient into the lap of a brother practitioner, as much as to say, "It's up to you."

Who can lose sight of the advantages to accrue to both physicians and patient by a closer working relationship between general practitioner and consultant, or specialist. Such a relationship would add material value to the ordinary formal consultation, which, all must acknowledge, is often unsatisfactory to all concerned. Porter scores a good point when he says that any *single* or *limited* method of treating nephritis is apt to be disappointing. In performing decortication for Bright's disease, let the physician and surgeon work together (and work hard), and their results will be correspondingly better.

Although the theory and principle of the Edebohls's operation are familiar to all, it will lay this subject before us in a more tangible form if you will permit me to review the essential points concerned in treating Bright's disease surgically, and fixing a movable kidney to the posterior abdominal wall.

Renal decapsulation is designed to cure chronic interstitial nephritis by lessening through the stripping off of the tunica propria, the intracapsular tension and interstitial pressure upon the renal parenchyma and by the coaptation of raw kidney surface and raw muscle (quadratus lumborum), to thus establish an increased and augmented circulatory supply by the formation of new vessels. In cases previously operated upon in this or a similar way, it has been found that a marked vascularity has been imparted to the bands of adhesions,

the new vessels consisting mainly of arteries, and the blood current being uniformly toward or into the kidney. Relief of intrarenal pressure, and an improved nutritive supply, are the accepted factors in inaugurating improvement.

To fix a movable or a floating kidney the same principle of producing adhesion (or cohesion) of two raw surfaces is carried out, the contact between the same being maintained by chromic catgut sutures passed through the partially stripped capsule and the muscular planes of the posterior abdominal wall.

Of course, the establishing of a new or a better circulation in the kidney is in accord with the principles of the so-called Talma's operation, where the object in view is to produce adhesions between various adbominal viscera, notably the liver and the diaphragm, and the omentum and the parietal abdominal wall, for the purpose of bringing about the development of new veins and lymphatics that they may enhance the circulation of the liver and cause an absorption of the ascitic fluid. It is a poor rule which will not work both ways. Edebohls, by forming adhesions between the kidney and the quadratus lumborum muscle, increases the blood supply of the kidney, and has found, post mortem, that the new vessels are almost exclusively of the arterial type, and that the currents flow in the direction of, and into, the kidney. Talma establishes new veins and venous anastomoses to relieve the obstructed circulation of an organ undergoing cicatricial changes, *and Edebohls brings about the development of new arteries to carry additional blood to an organ which is also undergoing cicatricial changes.*

A glance at the history of the operation of nephropexy first performed by Hahn, of Germany, in 1881, will give undisputed sway for a variety of technique, outclassing in this respect even the multitudinous operations of the gynæcologists for the restoration of the uterus to its normal position. The old method of passing sutures through the kidney parenchyma will be remembered as an example of the conscientious but futile efforts of the surgeon to anchor a wandering gland. The operation promulgated by Senn, that of suspending the kidney by slings of iodoform gauze passed beneath each renal pole, and packing the wound with the same material, was found wanting because the scar tissue thus produced lacked the supporting and retaining qualities necessary to success. And the time is not yet ripe to speak too sanguinely of the Edebohls method of performing nephropexy, although the technique is in full accord

with the most modern and most surgical ideas entertained regarding wound healing and the fixation of displaced organs. However, after performing this operation twelve times since May, 1902, I am at least greatly encouraged with its results up to the present time.

The operation is not by any means an easy one, to be done in a sort of a go-as-you-please, half-hearted way, but if success is to be attained and if relapse is to be prevented, the most careful attention must be paid to details. The naked kidney must be closely and securely brought into contact with the raw, unsheathed quadratus lumborum muscle, and retained there by chromicized sutures, the patient being kept in the horizontal, supine position for a period of not less than three weeks. Care must likewise be exercised in accurately approximating and holding together the muscular layers separated in making the lumbar incision.

Of my eleven patients, nine were females and two were males. In ten cases the operation was upon the right kidney alone, and in one case upon both kidneys (making twelve operations altogether); it was done eight times for movable kidney alone, twice for movable kidney associated with chronic interstitial nephritis, and once upon both kidneys at the same sitting, for nephritis alone; in four cases I performed a lumbar appendectomy, because of the presence of positive signs of history of appendiceal inflammation. The appendix was reached in every instance without any special difficulty, and the operation was not especially prolonged or complicated by its removal. Edebohls has stated that in the fifty-six times that he has attempted to remove the appendix by the lumbar route, he has failed four times. This is to be expected, when one considers the variety of positions the appendix may occupy. My cases have impressed upon me the truth of Edebohls's teaching concerning the close sympathy between movable kidney upon the one hand and inflammations of the appendix on the other. The two conditions are so frequently associated that it may be said without fear of contradiction that given a female patient with a right movable kidney, it is the surgeon's duty to perform nephropexy, and at the same time to do a lumbar appendectomy. The mortality of nephropexy is between one and two per cent., and this cannot be appreciably raised by combining with it an interval appendectomy through the same incision. The time required for the double operation, working carefully, is about one hour.

All of the cases referred to in this paper recovered promptly with-

out complications of any sort, except two of the three suffering from chronic Bright's, which terminated fatally. These were exceptionally bad cases, and I wish to present a detailed report of them.

Case 1.—Mr. R. B., age 31 years. Father has Bright's disease. Patient has used alcohol moderately. Has had constant headache for past eighteen months; vomits frequently; pains in stomach, dyspnœa. One month ago sight became bad; urine is very profuse; mitral regurgitation. Urinalysis shows daily quantity to be 70 ozs., specific gravity 1005, with albumen and hyaline casts. His vision was reduced to $\frac{1}{12}$ of normal, and both eyes showed albuminuric retinitis.

A typical bilateral Edebohls's decortication was done, which produced only moderate shock. The daily quantity of urine was reduced almost immediately to 20 to 25 ozs.; repeated urinalyses showed persisting albumen and casts. Before he left the hospital his sight became reduced to almost complete blindness, and he died two weeks later.

Case 2.—Mrs. E. U., age 62 years. Father died of Bright's and one sister died of Bright's at 40 years of age; family history of heart disease and patient has had heart disease for many years. Five months ago noticed enlargement of abdomen and swelling of feet and legs; now lower extremities are very sore and badly discolored; serum oozes profusely from innumerable points on both legs; patient cannot lie down. Smooth, well-outlined, movable tumor in right lumbar region, which can be pushed up under liver. Urinalysis: Daily quantity 19 ozs., specific gravity 1020, urea 2.6 per cent., no albumen; microscope shows hyaline and granular casts.

I decapsulated and anchored her right kidney (which I found well down in her right iliac fossa); length of operation, thirty minutes. She reacted wonderfully well considering her very poor general condition, without special shock. Repeated examination of her urine during the next month showed no improvement (it was too soon to expect any). The daily quantity of urine secreted never exceeded 20 ozs., although considerable temporary improvement of her general condition followed; the œdema and ascites gradually increased, and she died after eating heartily of a New England dinner of corned beef and cabbage, lima beans and tomatoes.

Case 3.—Miss S. C., age 34 years. Ill health for many years, sensation of pressure in right lumbar region; headache and backache. Examination shows presence of smooth, movable, globular

tumor above and to right of umbilicus. Urinalysis: Daily quantity, 18 ozs.; specific gravity, 1008; trace of albumen; urea, 1 per cent.; a few hyaline casts. Diagnosis, movable right kidney and interstitial nephritis.

Operation of Edebohls's nephrophexy was performed upon right kidney, which I found high up under the left lobe of the liver.

A good recovery followed, and the patient's health, two years and three months after the operation, is greatly improved. The right kidney is still in its fixed position, and the quantity of urine has increased to 30 ozs. *per diem*, with urea of 2 per cent., and a clear microscopical field.

It must be apparent to all that cases one and two were beyond medical and surgical help; their operation was performed at the earnest request of the attending physician, while both patients realized that they were but grasping at a straw.

I have made no special effort to trace these cases of nephropexy herein reported, because the period of time since the operations were performed is short, even for the cases first operated upon. I will say, however, that I am in close touch with four of the cases, operated upon in May, 1902, June, 1902, December, 1903, and May, 1904, and can state positively that they are, with one exception, enjoying good health, and that the symptoms due to the displaced kidney have disappeared.

One patient, Mrs. R., had previosuly had both ovaries removed and her right kidney fixed, and was in poor health from several causes. Her right kidney prolapsed again, and I performed Edebohls's nephropexy in May, 1902. She left the hospital complaining of pain in her back, and although her right kidney still occupies its new bed, it cannot be said that she enjoys good health.

I wish to state that many of my patients subjected to this operation have suffered severe pain in the back immediately afterwards, this pain lasting for about twenty-four hours.

In conclusion, let me express my confidence in the Edebohls's method of performinng nephropexy, because I believe it to be the most rational and the most anatomical in its technique of all the multitudinous procedures heretofore suggested for the fixation of a wandering kidney, and because I have unbounded faith in its possibilities for the relief and cure of chronic interstitial nephritis, where performed upon carefully selected subjects, and where the surgical is intelligently combined wth proper etiological and therapeutic treatment.

FRACTURES OF THE NECK OF THE FEMUR.

GUSTAVE A. VAN LENNEP, M. D., PHILADELPHIA.

There is probably no other single fracture of so grave a prognosis to the future comfort and usefulness of the patient and so frequently fatal as fracture of the neck of the femur.

Occurring principally in persons of advanced middle life and old age, and particularly common in old women, the prognosis as to life is often of paramount importance and takes precedence over the question of restoration of function, and of obtaininng union. In the aged and infirm the long confinement to bed in one position becomes a serious menace to life, and we are often compelled to give up all hope of obtaining union, and get the patient up and out of doors if possible, in order to avoid threatened hypostatic pneumonia, renal insufficiency, or serious gastro-intestinal complications. Even in these cases it is at times surprising how useful a limb can be obtained, the patient going about with a crutch, or possibly with a cane, and with complete non-union, and, of course, much shortening.

The frequency of this fracture in the old has been attributed mainly to senile change in the bone, all parts of which become much rarefied, with thinning of the cortical layer, and enlargement of the meshes of the spongy portion. This change can be demonstrated as being present in all persons over fifty years of age and is more marked in females than in males. Bigelow has shown that this rarefying change affects also that prolongation of the posterior wall of the neck into the spongy tissue, which he terms "the true neck," and thereby further weakens the bone. It remains to have only a slight strain, as a misstep, a stumble, or a fall on the knee or hip, to produce a fracture.

Another reason has been thought to be a change in the angle formed by the neck and shaft which occurs with old age. It has been said that with the advent of years this angle approaches nearer a right angle, a position that would predispose to fracture. Whether this change actually takes place or not is a mooted question. Stimson seems to think that this point in the causation of fratcure has not been proven, and quotes Rodet, who found the average angle in

the child and adult to be 131 degrees, and in the aged 128 degrees, a difference too slight to be of any importance. Lauenstein, on the other hand, found the angle changed.

Two points of interest and bearing upon the fracture are the attachments of the capsule and the periosteum. The capsule is attached in front to the spiral line above to the neck just short of its junction with the great trochanter, behind the neck about half an inch from the inter-trochanteric line, and below to the upper part of the lesser trochanter. Above and behind, therefore, the outer third or quarter part of the neck is outside of the capsule, while the front and lower portion is completely covered by it. The synovial membrane does not extend to the extreme limits of the capsule, but is reflected early from it to the neck, leaving a strip of the latter between it and the attachment of the capsule which is intra-capsular but yet extra-articular.

The periosteum is thick and richly supplied with blood-vessels, especially at its upper portion, which contains one vessel of considerable size distributed to the neck and head. It has been pointed out by King and others that this portion of the periosteum (*i. e.*, the upper) is frequently left intact after fracture, and upon it depends the vitality of the head of the bone.

The old classification of these fractures into "intra-capsular" and "extra-capsular" or "mixed" has, for many good reasons, given way to a much simpler and clearer division suggested by such authorities as Bigelow, Stokes, Kocher, and Stimson. The terms used by the latter appeal to the writer as being clear and sufficiently defining the lesions without unduly limiting the seat of fracture, and shall be used in preference to the old nomenclatrue.

Stimson uses the terms "*fracture through the neck*" and "*fracture at the base of the neck*," but he says: "It seems to me unwise to make a sharp distinction between the two forms and to urge as some do, most recently Kocher, that fractures of the narrow part of the neck or intracapsular should be deemed from the first incapable of union and treated accordingly. I think, on the contrary, that union should be sought in all cases and almost always by the same methods, and that the diagnostic differentiation at the outset, therefore, is rarely of practical importance." As a matter of fact it is clinically impossible to positively distinguish between many of these fractures through the neck, and those at the base of the neck which are not comminuted or crushed. A question of far greater importance is

whether the fracture is *impacted* or *unimpacted*. Scudder says: "Fractures at the base of the neck are usually impacted. Fractures through the neck are always unimpacted. Impacted fractures unite readily. Unimpacted fractures often remain ununited." Stimson on the other hand thinks that the importance of the presence or absence of impaction has been overestimated. He says: "The capital point in prognosis, the degree of vitality of the upper fragment, depends not upon impaction nor upon the situation of the fracture, but upon the preservation of the vascular supply furnished by the vessels which approach the bone near the insertion of the capsule and run toward and to the head in the thick periosteum of the neck."

Nevertheless the clinical fact still remains that impacted fractures heal much more quickly and with better results than those that are complete, and it is of the utmost importance that the greatest care be exercised in the handling and treatment of all cases of fracture of the hip to avoid weakening or the breaking up of a possible impaction.

The exciting cause of the fracture in the old is commonly a slight violence, as a fall to the ground while walking, a stumble, or a misstep, or the jar occasioned by stepping down to a slightly lower level. In many instances the fracture precedes the fall, the latter being the consequence rather than the cause. It has been shown by experiments on the cadaver that the neck of the femur in the old can be easily broken by adbuction, adduction and rotation, also that direct violence over the trochanter invariably produces a fracture at the junction of the neck and shaft, while blows upon the knee invariably have failed to cause a break in the neck. In the light of these researches it would seem that the strain exerted through the ligaments in extreme positions of the limb has a greater bearing upon the production of the fracture than the actual violence itself. The fact that a fracture can occur in the old without a fall is a point well worth keeping in mind in the diagnosis of a case. In the young and young adults the cause is generally much greater and more direct violence, as a fall from a height.

The fracture line may lie at any point between the head of the bone and the base of the neck. Often there is more or less splitting of the trochanters and even of the adjoining shaft, and in a few cases the lesser trochanter may be detached and remain fast to the neck. Separation of the epiphysis has been demonstrated and occurred in the reported cases between the tenth and sixteenth year.

It is, however, very rare, fractures at a corresponding age being much more common. Fracture through the neck proper is rarely seen in the young, and is essentially the lesion of advanced years. The fracture line is usually irregular and with a tendency to angular displacement, the apex of the angle being directed forward and upward, and is frequently accompanied by crushing posteriorly or penetration of one fragment into the other. Some authorities have styled this form where crushing and interlocking of the fragments is present as an "incomplete fracture." Usually a portion of the periosteum remains untorn at some place, and serves the important function of supplying the head with its blood supply as previously mentioned. When the fracture is complete, and the periosteum torn across, wide separation of the fragments and poor blood supply result, both of which seriously affect the chances of union.

Fractures at the base of the neck are essentially of two forms, one in which the trochanters are split and more or less comminuted, and the other in which the neck is bent backward and downward with crushing of the posterior part or penetration of the neck into the trochanter and shaft. This latter is the common fracture found and readily accounts for the eversion and slight shortening of the limb. Exceptionally the angular displacement is in the opposite direction, so that the limb is inverted instead of everted. Inversion can also exist when the fragments are not interlocked.

Again, in exceptional cases, "the neck may be driven bodily into the trochanter without much change of direction, and may penetrate to the opopsite wall," or the lower fragment may penetrate the upper one.

That union after fracture through the neck is possible has been proven by many specimens; probably the best that can be said of any given case is that bony or close fibrous union is possible, and that this union is largely influenced by two factors, the presence or absence of impaction or interlocking of the fragments, and the preservation of enough of the periosteum of the neck to ensure sufficient vitality of the head and upper fragment. That this latter is probably present in many cases, and even in some where the fracture is complete, is more common than was formerly thought.

Non-union, especially after complete fracture through the neck, is frequently met with. In some of these cases disappearance of the neck results from crushing and rarefactive osteitis, or the fragments may remain with smooth eburnated ends and the formation of a

false joint. Exuberent callus may lead to an interlocking of the fragments permitting good use of the limb, as in a specimen illustrated by Stimson. Considerable use of the limb may also be possible where there is complete non-union and separation of the fragments, through hypertrophy of the Y ligament and the obturator and inferior gemellus muscles, which are enabled thereby to sustain the weight of the body in walking, as shown by Bigelow, Reboul and Bryce in dissecting specimens. The patients are able to walk with the aid of a crutch or cane, though with a marked limp, and bearing the weight of the body only momentarily upon the limb. In the old and rheumatic occasionally the joint remains stiff and painful, even where there is good union, from adhesive synovitis, peri-articular thickening and osteophytic growths, or exuberant callus formations.

That the ultimate result in many cases of fracture of the hip is far from desirable is shown by the report of sixteen cases treated at the Massachusetts General Hospital, and reported by Scudder. These patients ranged from forty-two to over sixty years of age, and were examined from two and a half to twenty-four and a half years after the accident. Nearly all were cases of unimpacted fracture. In only two out of the sixteen could it be said that the leg was functionally useful.

The immediate danger to life from the acicdent or within a few weeks from complications increases with the age of the patient. The third week is regarded by Stimson as the critical period, and if that is passed without serious complications cases usually do well. In the very old and feeble the shock may be so great as to cause death in a few days. In others pneumonia of hypostatic origin, or possibly from fat embolism, marasmus from long confinement to bed and pain, or renal insufficiency lead to a fatal termination. If the patient recovers and union is obtained, shortening and eversion of the limb, with limitation of motion, is the rule.

The symptoms of the fracture upon which a diagnosis is made include not only the usual subjective and objective ones of fracture in general, but also the history of the accident, and especially the nature of the violence, the slight degree of which so often characterizes this injury. It is only necessary to briefly describe the symptoms, as they are so well known.

Interference with function,, pain, posture and appearance of the limb, shortening, high trochanter, relaxation of the fascia lata, change in the deqressibility in the outer portion of Scarpa's space, shortened

radius of rotation and enlargement of the great trochanter. All of these signs are of great value and can be elicited with very little handling of the limb. Indeed, in many cases a diagnosis can be made by inspection and measuring alone. An anæsthetic is hardly permissible for diagnostic purposes or for treatment, except in very young persons or young adults. If it is used the limb should be handled in the gentlest manner possible.

You will notice that I have not mentioned crepitus as a symptom of fracture of the hip. It is a good rule to follow to *never look for crepitus* in these cases. A diagnosis can be always made without this symptom, and the danger of breaking up an impaction or completing the tear in the periosteum from injudicious attempts to elicit crepitus is very great, and has a most important bearing on the future welfare of the limb, and even, perhaps, upon the life of the patient.

The interference with function is, as a rule, absolute, the patient not being able to even move the limb in bed. In exceptional cases the patient may walk a few steps after the injury, and may in this way break up an impaction or complete a partial fracture. Pain is always present, and at times is constant and very severe, leading to loss of sleep and much exhaustion. It is referred to the trochanter, the groin, or any portion of the thigh down to the internal condyle.

The appearance of the limb is characteristic. It lies in a helpless attitude, rolled over onto its outer surface with the foot everted, the outer border often resting on the bed. Sometimes, however, eversion is so slight that it can only be recognized by comparing the extent to which the feet can be *inverted*. The possibility of a reversed deformity, *i. e.*, inversion, has already been mentioned and should be borne in mind. Shortening of the limb is from a fraction of an inch to two or three inches. Measurements should be taken from the anterior superior spine of the ilium to the tip of the internal malleolus, and should be corroborated by measurement from the umbilicus to the same lower point. It used to be said that shortening, coming, developing or increasing within a few days after the injury indicated a complete fracture through the narrow part of the neck, an "intracapsular fracture." It is now claimed, however, that late shortening indicates a broken up impaction or further laceration of a periosteal bridge, and should be prevented by appropriate immobilization and traction of the limb. Elevation of the trochanter major is recognized by Nelaton's and Bryant's lines, or can be rough-

ly estimated by the fingers comparing the two sides. Normally, the tip of the great trochanter is nearly opposite the symphysis pubis.

Relaxation of the fascia lata, sometimes known as "Allis's test," is best recognized by pressing the fingers inward just above the trochanter and just above the knee on the outer side. It is most marked when the shortening is great. Hennequin first called attention to the change in the depressibility of Scarpa's space. Ordinarily the fingers can be pressed deeply into the limb in the outer portion of Scarpa's space, but when the neck of the femur is broken, this depressibility is reduced in varying degrees, apparently by the angular displacement forward. The pressure is painful.

Rotation of the trochanter upon a shorter radius than in the normal is a symptom of little value. Theoretically, it is simple and accurate, movements after fracture are very limited, and resented by the muscles about the hip which are immediately excited to contraction. The pain inflicted upon the patient is severe, possibly no other single motion of the hip is so painful as rotation. The danger of breaking up an impaction is very great, as more direct strain is brought to bear upon the neck of the femur by rotation of the limb than by traction and even abduction. Then lastly it is extremely difficult to recognize a change when it is preesnt, particularly in fleshy people. Stimson believes that the sign is only of use in cases "of fracture with crushing of the neck, and when the shaft lies unconnected with the remainder of the head and neck." Rotation of the limb then takes place about the longitudinal axis of the femur, and is best recognized by placing the fingers back of the trochanter and rotating the limb gently. Instead of rising from the finger the bone can be felt to slide over it.

While the existence of a fracture of the neck of the femur is in most cases an easy matter to determine, the variety of the fracture is often difficult to diagnose, and at times an impossibility during the life of the patient. Fortunately, the importance of distinguishing between the different forms is not so great as to warrant any undue examination. It is only in those doubtful cases where the deformity is but slight and other signs of fracture seem insufficient that serious error may be made. The warning, so often repeated, that inability in an elderly person to use the limb after a fall should be looked upon as evidence of probable fracture of the neck of the femur, has too often been disregarded to the great injury of the patient and also the physician. All doubtful cases must be treated as fractures until

the diagnosis becomes clear, and particularly is this urged when the injury has been but slight, as a stumble, or a fall, while walking.

Whitman has recently shown that fracture of the neck of the femur in childhood is much more frequent than formerly supposed. The fracture is usually impacted or green stick and is frequently diagnosed as a contusion. The violence is usually great and direct, and the immediate disability but slight. Months or years later a coxa vara apepars, leading to much deformity and limping. This resembles hip-joint disease in many symptoms, and is liable to be mistaken for it. The treatment consists of the application of a hip splint with traction. In the more severe refracture, or, better subtrochanteric osteotomy may be necessary.

The first consideration in the treatment of fractures of the hip is the general welfare of the patient. A skilled trained nurse is invaluable in keeping the patient cheerful and well cared for, and in preventing that bugbear, the formation of bed sores. The condition of the bowels, kidneys and skin should be carefully looked after. The room should be well aired, the bed kept clean and *dry*, and the bedding free from wrinkles. The patient should not be allowed to keep one position constantly, but should be moved a little from time to time or set up on a bed-rest so as to change the pressure from certain points and relieve monotomy. The diet should be nourishing but light, and supplemented with a certain amount of alcohol once or twice a day. The first indication is to save life; the obtaining of union and correction of deformity are of secondary importance.

There is very little to de done in the way of reduction. Gentle traction and inversion of the limb until the toes "point heavenward" as nearly as possibly is safe in all cases. A small sand bag or a suitable pad is placed behind the great trochanter to prevent eversion, and Buck's adhesive extension apparatus with weights overcomes or prevents shortening. A small pillow in the popliteal space prevents undue extension of the knee. The limb is steadied by sand bags placed on either side of it. These bags can be obtained empty from the instrument shops, or can be made out of unbleached muslin or light canvas and filled with dry sand. The external one should extend from the axilla to beyond the sole of the foot, and in circumference to equal that of the largest portion of the patient's thigh. The shorter internal one reaches from the crotch to the same lower point, and is equal in circumference to the largest portion of the calf. Counter extension is made by elevating the foot of the bed at

least six inches. If there is much tendency to rolling out of the limb a long T splint may be used in addition.

In from two to three months the patient will be up and going about with crutches. No weight should be placed upon the limb until the end of the fourth month or later. At the end of about a year the patient may be walking with a cane. One of my cases, an old lady over eighty years of age, with a complete fracture at the base and with one and a half inches shortening, was walking with a cane eight months after the injury.

This is the simplest method of treatment and the one generally followed. Much better immobilization can, however, be obtained in most cases by the use of the Hodgen suspended splint. In fact, this method is preferred to the simple extension and counter extension previously described. The Hodgen splint has many advantages. It permits of some flexion of the thigh and abduction of the limb, both of which are desirable. Then it is more comfortable to the patient and allows of better regulation of the amount of traction by simply changing the angle of the supporting cord.

Recently a decided departure has been made by some surgeons in the treatment of fractures of the hip by the use of one of the many hip-joint splints that are on the market. The method is well adapted for younger cases. The Sayre and Phelps are types of the traction hip splint, while the Thomas splint is without traction, and the one usually used, as it is the simplest. Any good blacksmith can make this splint in a short time. A harness maker can easily do the covering. It is easy of application, and by its use better immobilization can be secured than by any other method, and a patient can leave his or her bed in a much shorter time and get about with crutches. A pelvic band and a pad to press upon the trochanter can be supplemented if desired.

The splint is made of soft iron curved to fit the posterior surface of the body and leg. It consists of a main stem, a chest-band, a thigh-band and a calf-band. When completed it is padded with ¼ inch felt and covered with basil leather put on wet.

The measurements and materials for making the splint are taken from Scudder's text-book on "The Treatment of Fractures."

Stem 1¼ inches wide, ¼ inch thick, extending from the axilla to the calf of the leg.

Calf-band ⅝ inch wide, $\frac{1}{16}$ inch thick; the length is two inches less than the circumference of the calf. Held on with one rivet.

Thigh-band $^{2}/_{8}$ inch wide, $^{1}/_{16}$ inch thick; the length is two inches less than the largest circumference of the thigh. Held on with one rivet.

Chest-band $1^{1}/_{4}$ inches wide, $^{3}/_{32}$ inch thick; the length to nearly equal the circumference of the chest. Held on with one rivet after the end of the stem has been forged flat and bent back over it. A hole $^{1}/_{2}$ inch in diameter is forged at each end of the chest-band. The details of the application of the splint and its after care would use up too much space to be given here, and the reader is referred for them to Scudder's text-book.

Recently Davis has suggested operative interference in cases below 55 years of age. He recommends incision into the joint and wiring of the fragments. To say the least, this treatment seems rather radical. Operative interference had best be reserved for those cases of non-union in young adults in whom absolute fixation by the Thomas splint for a reasonable period has failed.

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DISCUSSION.

DR. R. L. PIPER: I would like to ask Dr. Van Lennep to name the oldest patient he has had in whom he has had a favorable result of fracture of the neck of the femur. Two years ago I had a patient 82 years of age, a lady, who fell down two steps of a stairway and fractured the neck of the right femur. Her age led me to expect a very unfavorable prognosis, but, to my surprise and gratification, at the end of of nine weeks union seemed to be complete. I was able to have her sit on a chair and even stand on the limb, but, to my disappointment, one week after I was able to get her around she developed paralysis of the left side, and she has been in bed ever since, although, as far as the fracture is concerned, she has had no trouble on that side.

DR. J. A. BULLARD: I simply mention as a matter of curiosity a

case that came under my observation, where a woman aged 90 sustained this injury and made a very good recovery, and the following year fell and broke the other leg the same way and made a good recovery, and walked without the aid of a cane or crutch.

DR. J. L. PECK: I would like to mention a woman aged 86 years of age, in whom this fracture occurred two years ago, and who is now 88. She made a good recovery and is in good health. The thing that gave the most trouble in her case was cystitis, which was very troublesome. The now seems as well as before her injury.

DR. G. A. VAN LENNEP: The oldest case I had I think was over 80 years. I cannot tell exactly. A case I cite in the paper, a little later on, of a woman who was knocked down by a bicycle, and who fractured her hip and had two inches shortening, recovered, and eight months after the accident was able to walk with a cane. I think Dr. Bullard's case very remarkable. After 65 or 70 years of age I hardly look for a useful limb after fractures of the femur in a great many instances.

THE PRESENT STATUS OF THE SURGERY OF THE STOMACH.

WILLIAM B. VAN LENNEP, A. M., M. D., PHILADELPHIA.

It has been aptly said of the stomach that the œsophagus is the feeder, the dome, the hopper, the pyloric end, the grind-stones, while the outlet extends through the duodenum down to the point where the biliary and pancreatic fluids change the acid reaction and mark the beginning of the intestine. This make-up is not unlike the male urinary bladder and its "surgical neck," the deep urethra, and here, too, as in the bladder, the *storm centre* is usually about the outlet, lesions in the fundus of either being to a great extent latent. Again, as in other hollow organs, this dome frequently compensates and overcomes obstructions, while restriction to a liquid diet, voluntary or enforced, permits of stomach absorption and an easier entrance into the intestine, often lulling the patient and physician into a false sense of security. To carry the simile still farther, just as in the bladder, permanent drainage and radical operations upon the obstructed outlet are taking the place of the catheter and the syringe, so in the stomach, kindred excisions and anastomoses are supplanting the palliative stomach-tube and douche-bag.

Taking ulcer first, the earliest if not the most frequent surgical lesion, it should be said that by no means all ulcers call for operative intervention. The acute form, for example, probably anæmic in origin, and met with in young, chlorotic females, tends to spontaneous cure under appropriate treatment, and only exceptionally do perforation or hæmorrhage require such operation as will be shortly described.

The chronic variety, the ulcer thought to be dependent upon hyperchlorhydria or mechanical injury to the grinding portion, is the one that particularly interests us. It usually assumes this character from the beginning, although it may follow the subsidence of the acute form and may develop active exacerbations. One point in particular

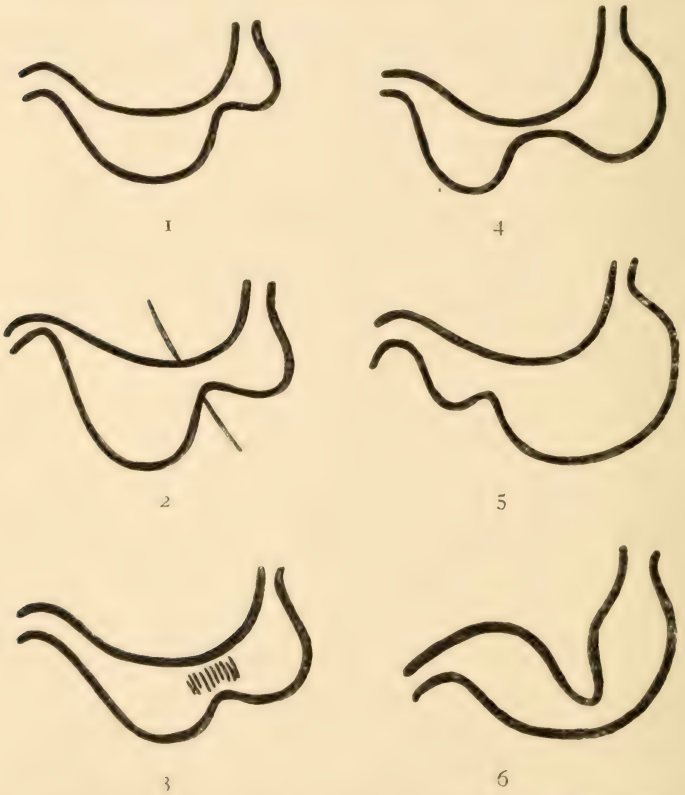

FIG. 1.—(Moynihan) Types of hour-glass stomach: 1. Obstruction near cardiac end. 2. Cardiac pouch concealed by adhesions. 3. Growth in body of stomach. 4. Two pouches connected by a narrow tube. 5. Cardiac pouch largely dilated. 6. Lesser curvature pulled down toward the greater.

should be borne in mind, *i. e.*, that ulcer is liable to deceptive ameliorations, with or even without treatment, and patients should, therefore, be observed over considerable periods of time before being assured of a cure. In a most excellent resume of the subject of gastric ulcer Bartlett states that if the symptoms persist after eight weeks of local and general rest, carried out as he describes in detail, the surgeon should be called in. (Hahnemannian Monthly, September, 1903.) This is safe advice so long as the patient is under the care of the one physician and for the initial manifestations, but such patients are prone to roam from one to another, so that the relapses cannot be compared, and, besides, each aggravation increases the danger of

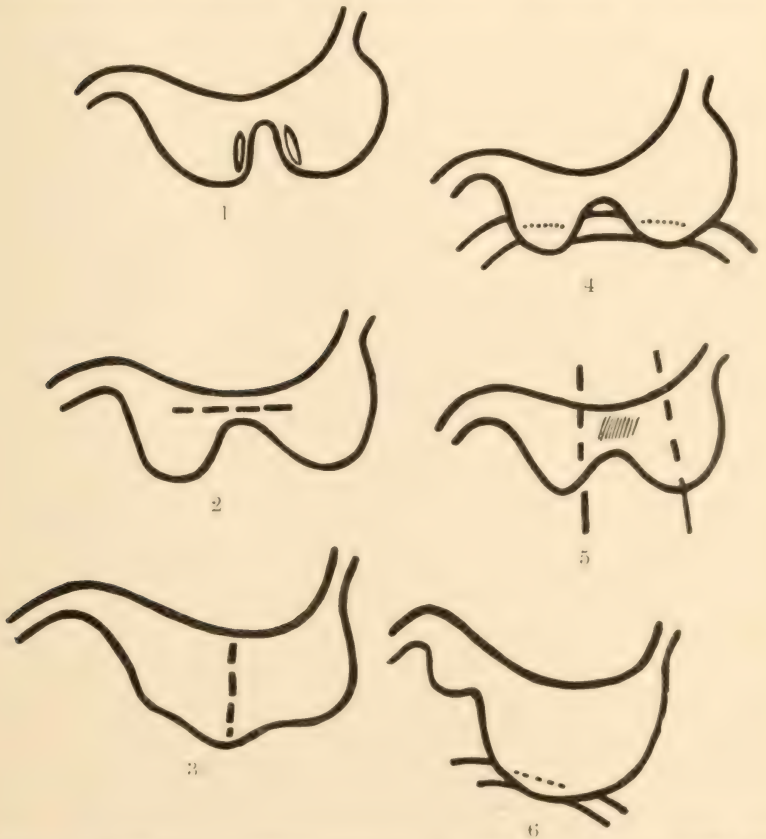

FIG. 2.—(Moynihan) Diagram showing the operations for hour-glass stomach: 1. Gastro-gastrostomy. 2 and 3. Gastroplasty. 4. Double gastro-enterostomy. 5. Partial gastrectomy. 6. Gastro-enterostomy from the cardiac pouch.

fatal or crippling complications. For these reasons many believe that this time limit should be cut down by one-half, and such treatment only instituted in the absence of obstruction or distortion.

Aside from this, the severity of the pain, the gastralgia, the degree of the dyspepsia and the location of the ulcer are valuable guides. Thus, pain to the back and in the supine position, relieved by leaning forward, suggest ulcer of the posterior surface, while superficial, distinctly outlined tenderness, with the reverse results from posture, point to the anterior surface. The prognostic value of such observation will be referred to directly.

The urgent indications for operation are hæmorhage and perforation. Hæmorrhage from chronic ulcer is the form usually calling for surgical intervention, and then when the bleeding recurs after a short interval, usually with an aggravation of the gastric symptoms as a prodrome, and threatens the patient's life. Like genito-urinary stone and pulmonary tuberculosis, all gastric ulcers probably bleed at some time during their course, often almost imperceptibly, again, in moderate quantity and at long intervals; exceptionally fulminating and carrying off the patient before any aid can be given. Although it is often hard to decide just how long and how profusely a patient should be allowed to bleed, and although opinions differ as to whether one or two recurrences should be awaited, there seems to be no doubt as to the indicated remedy, *i. e.*, to splint the stomach by gastro-enterostomy, which will stop the hæmorrhage and allow the ulcer to heal.

Perforations will vary considerably in their results. On the anterior surface they are apt to be acute, sudden in their onset, producing more or less extensive extravasation, with the consequent familiar symptoms of peritonism. In the so-called subacute form, there is the same sudden onset, but protective adhesions have time to plug the vent; the stomach is not so full probably, or its contents not as aseptic. As a matter of fact, the normal acid gastric fluids are more or less sterile, and it is easy to make them completely so by cleansing the mouth, lavage and the ingestion of aseptic fluids. Not so, however, with the stagnating contents of a dilated, obstructed stomach; tetany of varying severity is probably a somewhat common result, and may be aggravated to a fatal degree by promoting absorption through washing, or by suddenly dumping the putrefying material into the small intestines through an anastomosis. Ulcer of the duodenum seems particularly prone to perforation, although

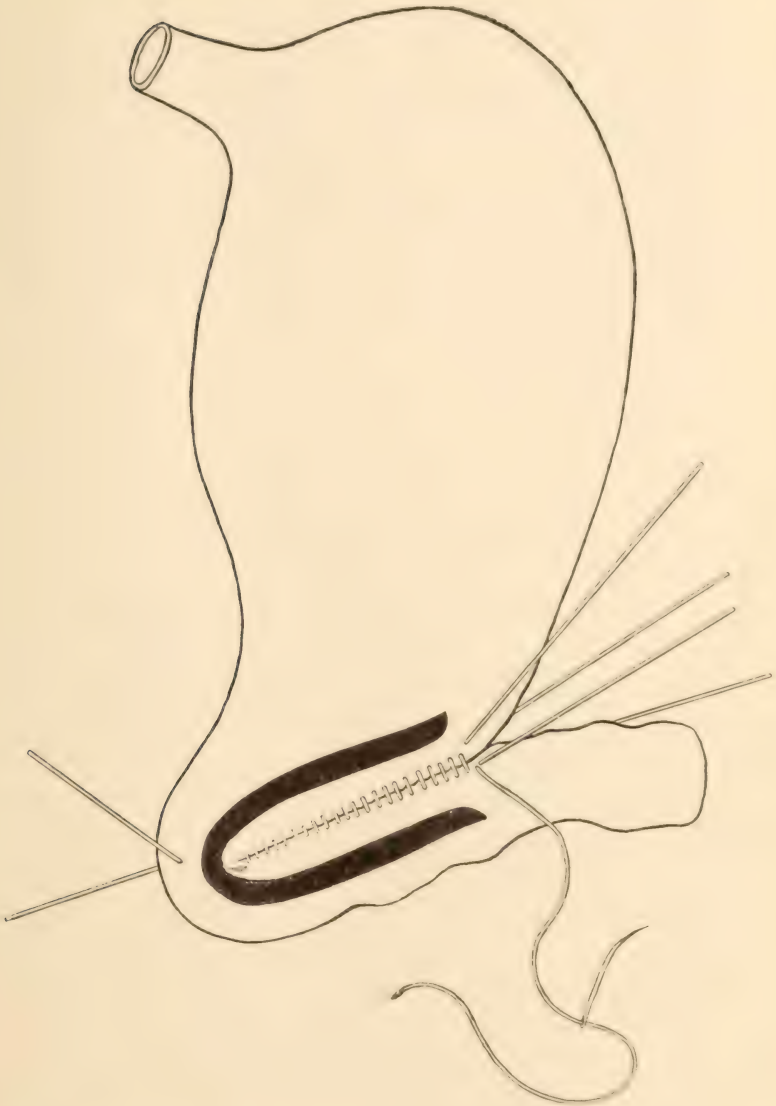

FIG. 3.—Gastro-pylo-duodenostomy, modified from Finney. The stomach and duodenum having been approximated and steadied by the three loose sutures indicated, the apposed surfaces are united by a protective sero-serous Cushing suture, the end being left long to be used later as indicated in Fig. 5. An inverted U-shaped incision is then carried into the adjoining portions of the stomach and duodenum, the arch being completed through the pylorus. In a gastro-duodenostomy the last portion of the incision is omitted.

the extravasation is often walled off; if not, the escaping fluids are apt to run down the lateral gutter and simulate acute appendicitis. The paroxysms of pain associated with these ulcers not infrequently mimic gall--stone disease quite closely, their delayed onset after eating and the absence of hæmatemesis throwing the attendant off his guard.

The treatment of acute and subacute perforation is, briefly, abdominal section, closure and inversion of the rent when found, or exposed if covered, a careful hunt for other openings, as ulcers are often multiple and on opposite surfaces, peritoneal toilet with suprapubic or other drainage as deemed best, and gastro-enterostomy of the suture has produced a constriction, or if other active ulcers are

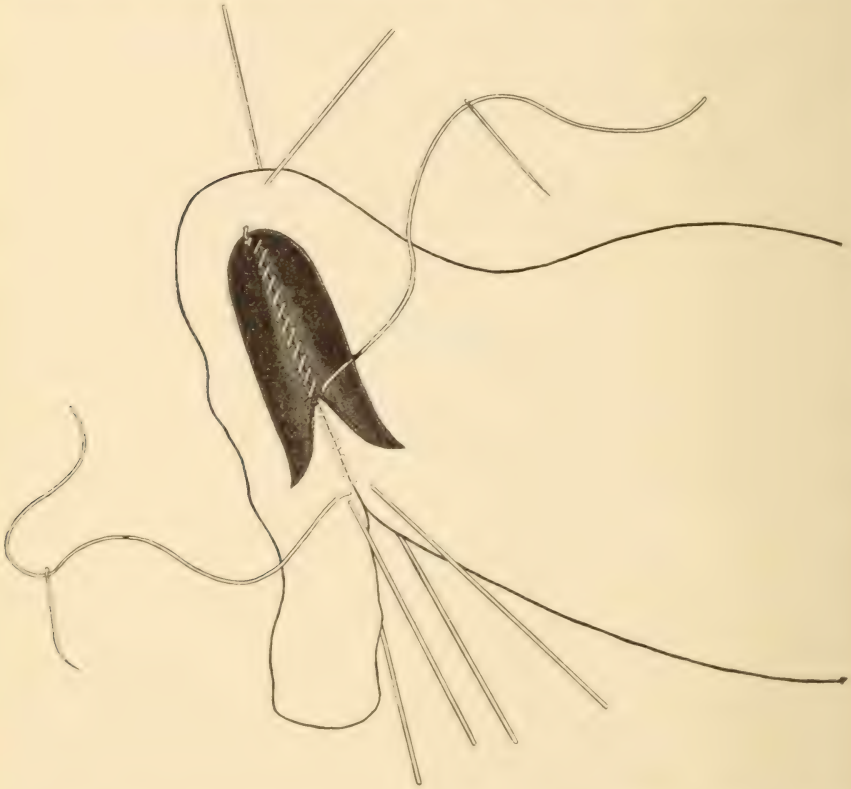

FIG. 4.—Gastro-pylo-duodenostomy (continued). The inner edges of the gastric and duodenal wounds are being united by a continuous or button-hole suture (the latter controlling the bleeding better), beginning at the pylorus or hollow of the inverted U. This is nearly complete.

recognized or *suspected*. Chronic perforation is especially met with on the posterior surface and produces either a peri-gastritis with resulting adhesions to neighboring organs or the parietes, disturbing motility and distorting the stomach, or a fibrino-purulent peritonitis, an abscess, in other words, which may become subphrenic (the *pyo-pneumo-thorax subphrenicus* of Leyden), may empty into neighboring organs or on the surface, the appropriate treatment would be evacuation and separation of the adhesions with closure of any resulting openings, but the danger of the latter reforming not infrequently calls for one of the anastomotic measures to improve drainage.

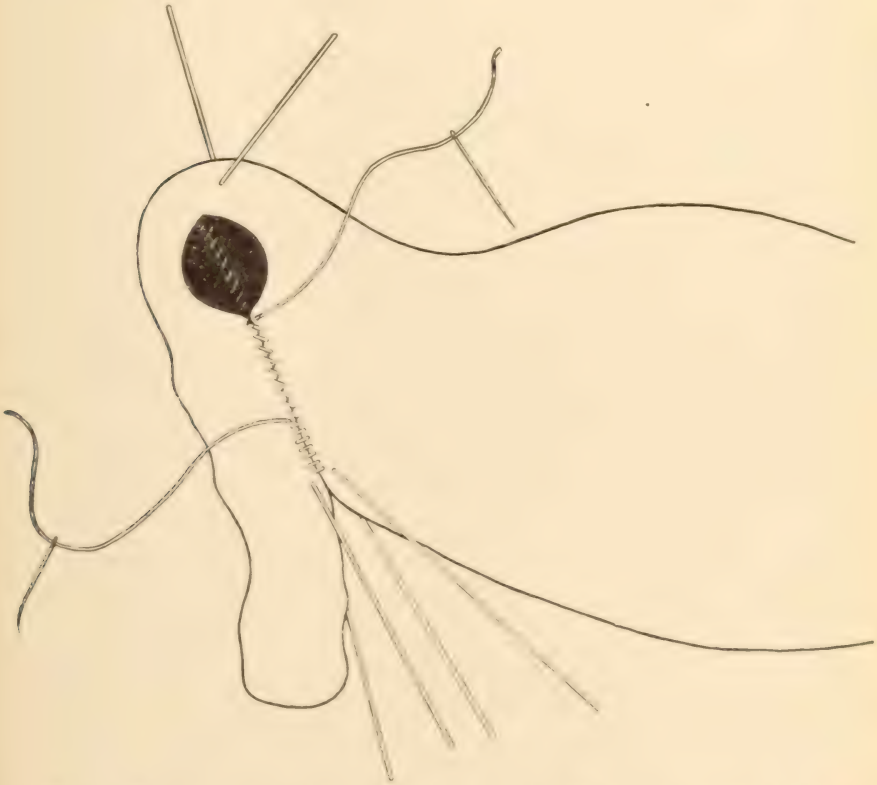

FIG. 5.—Gastro-pylo-duodenostomy (concluded). The continuous (or button-hole) suture is being carried back to unite the outer edges of the stomach and duodenal wounds, from the legs toward the arch of the inverted U. This is almost completed and the protective sero-serous Cushing suture is being continued with the end left long in Fig. 3.

The non-malignant stenosis, either intrinsic in origin or from the adhesions just referred to, have led to a great deal of very interesting work. Without taking time to detail the plastic measures for the relief of the bifid, trifid, or otherwise distorted stomach, the far more common stricture at the outlet is treated by enlarging the same or by drainage from the most dependent point. The familiar procedure of Heincke-Miculicz has given way to a wide anastomosis between the stomach and duodenum, a gastro-pylo-duodenostomy, by an inverted U-shaped incision devised by Finney. Besides a free opening with less danger of subsequent contraction, the level of the pylorus is lowered and evacuation facilitated. Kocher's anastomosis between the stomach and duodenum (a gastro-duodenostomy) accomplishes practically the same result, except that the pylorus is eliminated and the opening is of necessity smaller.

In the presence of extensive, pyloric adhesions or active ulceration it appears better to divert the stream and give the stomach dependent drainage, so that gastro-jejunostomy has become deservedly popular, and is best performed posteriorly, after the original method of von Hacker, by an unsupported suture, as in Abbe's lateral anastomosis. A few points in connection with the operation may not be out of place. The stomach should be opened at the most dependent point and the jejunum as high as possible. The latter prevents the sag and final giving away behind the resultant spur—duodenal peristalsis being weak, and this is one of the complications of the anterior anastomosis in particular. Kocher's and Miculicz's plan of incising the jejunum transversely may further facilitate the onward flow, but limits the size of the opening. The much-discussed "circulus vitiosus," be it regurgitant or obstructive vomiting appears to be less frequent in the absence of the above-mentioned spur, even though this is supplemented by entero-enterostomy. Fowler's device of forcing the intestinal stream directly into the efferent gut by a silver wire dam is ingenious and worthy of trial, but only if the kink cannot be avoided: it simplifies the so-called Y method, provided the wire causes no remote mischief. Instead of the encircling wire an excellent plan is to turn in the afferent loop, beyond the entero-anastomosis, with sutures, until its lumen is completely occluded. This can be advantageously combined with Luecke's method of twisting the jejunal loop so as to secure peristalsis in the same direction on the part of both the stomach and the efferent intestine. The occurrence of peptic ulcer in the jejunum

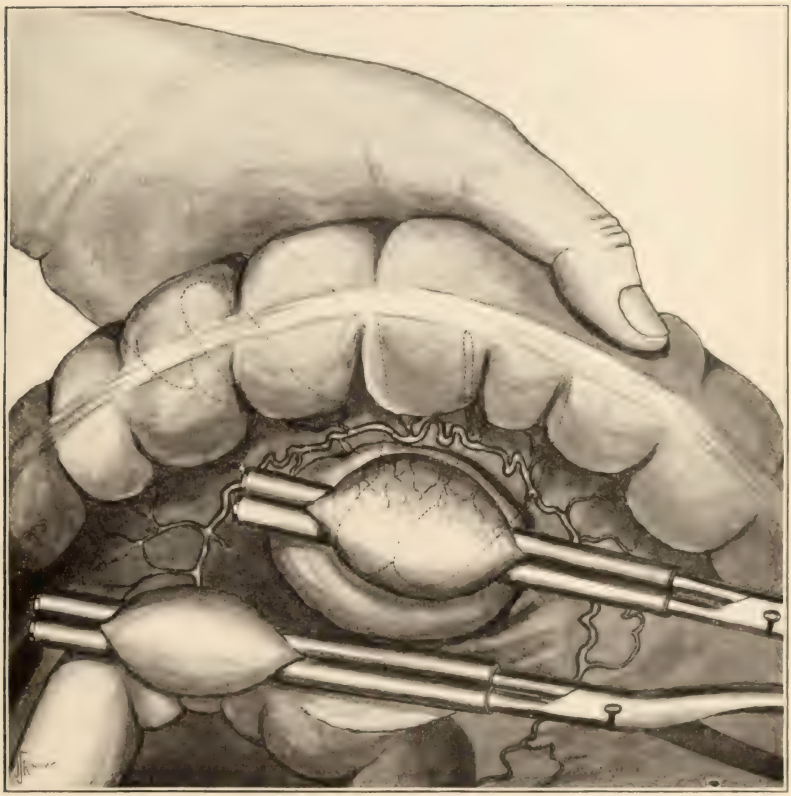

FIG. 6.—Posterior gastro-jejunostomy, modified from Scudder. The transverse colon has been drawn upward out of the abdominal wound, exposing the meso-colon; this is incised and torn through, avoiding large vessels, opening the cavity of the lesser peritoneum. The stomach is pushed into the opening by the fingers of the left hand, its posterior (presenting) wall raised from the anterior with mouse-tooth forceps and grasped by rubber-covered Doyen clamps, from left to right and from below upward, to an extent permitting of a two-inch or larger opening. The uppermost end of the jejunum is drawn tense and its free border clamped to a similar extent with another pair of Doyen forceps.

FIG. 7.—Posterior gastro-jejunostomy (continued). The stomach and intestine have been returned to the abdominal cavity and protected by sterile gauze pads to which out-hanging tapes are attached. A strip of the same is placed behind the clamps as they are laid alongside of each other. The stomach and jejunum are then united by a protective sero-serous, Cushing suture, the ends being left long; they are opened by parallel incisions of equal length; the pouting mucous membrane trimmed off, in one strip if possible, from either opening, and the adjoining edges of the wound whipped together with a through and through continuous or button-hole suture. These different steps are indicated as being completed or going on at the same time.

close to the anastomosis, like the ulcers met with in the duodenum, appears to be dependent upon the action of the acid gastric secretions, increased as they are by the presence of ulceration. It may prove to be true, as claimed by Roux, that in an anastomosis close to the origin of the jejunum, the biliary and pancreatic fluids will neutralize this hyperacidity. As to the permanence of the artificial opening, Nature's rule concerning fistulæ seems to hold good, for this will persist in the presence of pyloric obstruction, while it will invariably contract, whether large or small, in its absence compared with the gastro-duodenosotomies of Kocher and Finney, the latter although ideal, do not so far appear to have the same healing effect upon active ulceration; the stomach may not be as completely "splinted," for they do not stop bleeding, and the ulcer-bearing area has to be traversed by the food. While they may drain, then, they do not as completely divert. Excision of the ulcer zone as suggested by Rodman is radical, precludes the possibilities of cancer-grafting on an ulcer base and by the simplified technique to be referred to shortly appears perfectly feasible. Whether we can dispense with the "grindstones," scarred although they be, remains to be seen.

The surgical treatment of gastric cancer represents the culmination of the work upon the stomach, and when we realize that this organ is the most frequent seat of such growth, the importance of the subject must impress everyone. With an accurate anatomical knowledge and a simplified, rational operative technique, we are practically in the same position as in uterine or breast carcinoma, *i. e.*, success depends upon early operation. Considering the universal mortality of the disease if left alone and the prohibitive death rate if operated too late, exploratory incision is the only reliable diagnostic resource, and it is our duty to educate the public to resort to this when the clinical signs point to cancer or even lead to a reasonable suspicion of its presence. Such an incision has been aptly termed by Mayo-Robson "the minor abdominal section," and permits of digital and even ocular exploration. In the presence of inoperable disease, the opening can be firmly closed by a non-absorbable suture to avoid the bed confinement which so often precipitates the end. Given a patient of the cancer age who from unknown causes loses appetite and flesh and suffers from an indigestion which does not promptly yield to treatment and a reasonable suspicion is established. Given again a patient of the proper age who apparently relapses after one or more

attacks of gastric ulcer and the possibility of cancerous implantation should again arouse the observing clinician.

The geography of ulcer and cancer are the same and the sequence is sufficiently frequent to be of suggestive value. As, fortunately, three-forths of gastric cancers are in the neighborhood of the pylorus, one of the earliest symptoms to attract attention will be disturbance of gastric motility and stomach dilatation. Add to these the history of previous ulcer perhaps, and the general symptoms above mentioned, together witht the appropriate age, and the suspicion closely approaches conviction. I have purposely referred to clinical observation, and have omitted mention of laboratory findings, chemical and microscopic, for, while in a general way, excess of hydrochloric acid stands for ulcer, and a low value of the same suggests cancer, as far as successful surgery is concerned, they have been shown to be of use only when the case is hopeless.

Many think that to diagnose gastric cancer tumor must be felt, and years ago we learned the dictum that the recognition of a tumor precluded operation. If such a tumor be immovable, if it involve the body of the stomach, if jaundice and ascites be present, with enlargement of liver or hepatic, and even supra-clavicular nodes, then, of course, the dictum is true. But a small pyloric tumor may sag into view, so to speak, and not only give us a good operative prognosis, but also be almost pathognomonic. Almost pathognomonic because inflammatory thickening around an ulcer may produce a tumor which often cannot be distinguished from cancer even after the abdomen is opened, except that it is less hard and nodular. Such a tumor too may be associated with enlarged lymphatics which closely resemble those infiltrated by malignant disease. It is these so-called "sentinel" nodes, by the way, that sometimes serve as guides to a round or fissured ulcer which cannot be felt or seen on the stomach surface. Occasionally cancerous or chronic inflammatory enlargements of the head of the pancreas will produce a somewhat similar tumor, but it will be less movable and sooner or later associated with jaundice and an enlarged gall bladder, as well as disturbances of the digestive, and at times the metabolic functions of the pancreas.

In cancer of the breast successful extirpation has followed the recognition, first, of skin infiltration, and second, of the various lymph streams leading from the organ. In like manner we find mural infiltration in the far commoner pyloric growths, spreading toward the dome and but slightly toward the duodenum and the

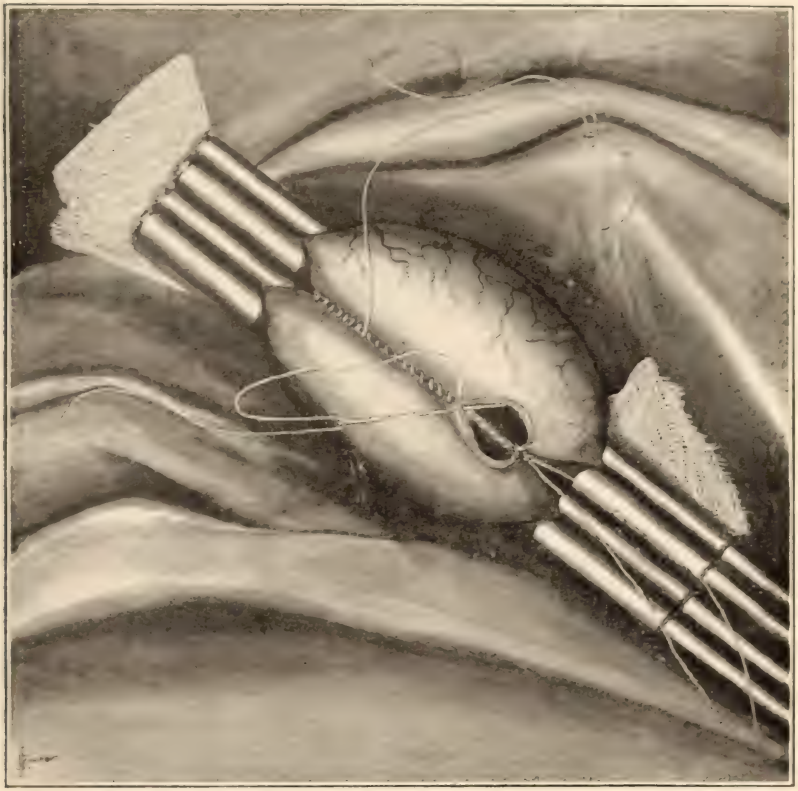

FIG. 8.—Posterior gastro-jejunostomy (concluded). The through and through suture has been continued around to draw together the outer edges of either opening and is nearly completed.

The sero-serous, Cushing suture, occluding the former, is represented as having been begun with one of the ends left long in Fig. 7. Both are tied at their points of starting. The clamps are removed; any bleeding points controlled by interrupted sutures; the gauze strip pulled out and the posterior aspect of the anastomosis examined and treated in like manner if necessary. After cleansing, the parts are restored to their normal position and the abdomen is closed.

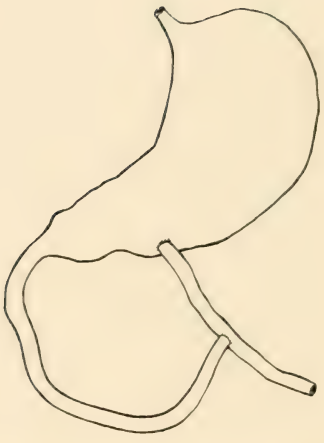

FIG. 9.—Diagrammatic illustration of the Wölffer–Roux Y-method to prevent regurgitation of biliary and pancreatic fluids.

freedom of excision varies accordingly. A study of the lymph stream, too, has completely changed the method of attack since the time when Billroth practically declared it hopeless. The lymphatics perforate the wall and early infect the nodes along the lesser curvature, which must be removed in its entirety. The glands like the vessels, along the greater curvature, are set a distance from the stomach wall to allow of dilatation from food and the direction of the stream is largely from left to right; this permits sparing the dome and the curvature, facilitates anastomosis or union of the defect and leaves the remnant of an organ which has or soon attains a considerable capacity. Enlarged nodes to the left of the line of excision can be readily teased out, just as the axilla is cleaned after giving a breast growth a liberal berth.

Again, as in hysterectomy, the operation is rendered bloodless by securing four principal vessels, so in the stomach, the gastric artery is tied at one end of the lesser curvature and the pyloric at the other; going through the gastro-hepatic omentum, the pylorus is freed and raised to avoid the middle colic, just as we fight shy of the ureter and the right gastro-epiploic or its parent vessel is caught; finally, its fellow on the left side is secured at an appropriate point and the hæmostasis is complete. Doubly clamping the duodenum close to the seat of disease and the stomach well away from it, excision is quickly carried out with the thermo-cautery, all sources of infection being seared, or the same can be done with the knife or scissors and a cobbler's suture introduced behind one or both clamps, before their removal. The seared or crushed edges are then trimmed off, and turned in either with or without an intermediate button-hole suture to control bleeding. If both openings are closed the obliterated stream is restored by a posterior gastro-jejunostomy, and if a spur result the loop is then best twisted, this being supplemented by entero-enterostomy and occlusion by folding. If the defect is not too great and the theoretically ideal duodenal implantation decided on, the stomach end is treated as just described, while the divided duodenum is either left alone or surrounded by a continuous button-hole suture to control hæmorrhage. An anastomosis is then made with the posterior wall of the stomach away from the line of suture, leakage being much less likely than in the old Billroth-Wolffler method of pylorectomy, in which the stomach opening was sutured down to equal the lumen of the duodenum. The abdomen is finally closed, with or without drainage, in such manner as the operator

may prefer. I have found, like many others, that the entire operation can be done within the hour and with a safety dependent almost entirely upon the absence of metastases and attachment to other organs. While different surgeons vary the procedure just described in certain details, and while the perfected technique represents the combined work of such men as Robson and Moynihan, Hartman, Doyer, von Eiseloberg, Witzel, Kocher, Czerny, Murphy, and Billroth's pupil, Miculicz, the credit at least for placing the operative surgery of stomach cancer upon a basis of practical results is due to the Mayo brothers.

DISCUSSION.

Dr. G. B. Roberts: Dr. Van Lennep has given us a very excellent and very timely paper. I notice in Mayo's work that he agrees with Dr. Van Lennep in that he places practically no value upon laboratory methods in determining his cases of gastric ulcer. In fact, at Rochester they do not seem to place any particular value upon laboratory methods in their diagnosis of stomach disease, beyond the matter of hyper-chlorhydria. Mayo operates cases of ulcer of the stomach a litle earlier than Dr. Van Lennep has spoken of as being his time of election. He has practically operated cases as soon as the diagnosis is made. He even goes somewhat further than this, and has made a division of his own of cases of gastric ulcer into what he called cases of surgical ulcer and cases of medical ulcer. The surgical ulcers are the cases which he comparatively rarely finds, that is, the cases in which the ulcer is actually located at the time of operation. Medical ulcer is the class of cases in which the diagnosis is made by inference, and in which they do not stop at the time of operation and undertake to demonstrate the actual presence of the ulcer. Of course, in the hands of a man like Mayo this may be good surgery, but if it is to become general practice, as it is quite possible that it may from different men seeing the work of Mayo, it will lead to the opportunity for an enormous amount of operations on the stomach without accurate diagnosis. This, however, I do not believe prevails at Rochester, because all of their cases go through the hands of four or five men before they get to the operating table, and their methods of diagnosis seem to be next to absolutely positive. One word relating to this vicious circle. I have not before heard the theory advanced that the opening of the stomach in the

FIG. 10.—Posterior gastro-jejunostomy, as in Figs. 6, 7 and 8, except that a spur or kink is shown.

(*a*) The jejunal loop is twisted to make the direction of the gastric and intestinal peristalsis correspond (latter indicated by arrows).

(*b*) Entero-anastomosis by suture, like the gastro-jejunostomy, between the free edges of the afferent and efferent loops, a short distance below the stomach opening.

(*c*) Occlusion of afferent loop, by longitudinal, continuous sutures, layer by layer, beyond the intestinal and behind the gastric anastomosis, to prevent bile or pancreatic fluid from reaching the stomach.

FIG. 11.—Partial gastrectomy, modified from Mayo. The gastric and pyloric vessels are divided between ligatures; the gastro-hepatic omentum is tied in sections, as high up as possible to get beyond all lymphatics and torn through; the pylorus is now free and can be raised to reach the right gastro-epiploics or the pancreatico-duodenal, care being taken to avoid the middle colic; hæmostasis is completed by doubly tying and dividing the left gastro-epiploics at an appropriate point along the greater curvature. It should be noted that the entire lesser curvature is thus ready for removal, while as much of the greater curvature is left as is compatible with safety.

Kocher clamps are then applied to the stomach, between the divided ends of the vessels, the one on the part to come away being bare, the other guarded by rubber tubing. The section is made between the two instruments, preferably with the thermo-cautery; otherwise, with knife or scissors. Doyen clamps are in like manner applied to the duodenum and the excision completed.

The divided ends are closed with a button-hole or continuous suture, the clamps removed, any bleeding points secured by "stick-around" stitches, when the lines of sutures are turned in by a second row and a purse-string, respectively.

This can be modified by applying a row of cobbler's stitches behind the clamp on the stomach, removing the latter, trimming the edges and turning in with a continuous suture.

jejunum high up would prevent this vicious circle. I am glad to know of it. The Mayos are attempting to prevent the vicious circle by closing the first arm of the circle, but by a method somewhat different from that described. The method which Mayo uses for closing the afferent portion of the loop is to enfold it upon itself until one side meets the other side, then sewing straight across, taking continuous sutures on the outside of the gut. These sutures do not go through into the gut, but merely enfold one-half of the gut. The result of that is to practically shut off circulation on that side. They are also following the method of reversing the loop. That is, if we make the anastomosis as is pictured in the illustration, the wave from the duodenum is travelling from right to left while the peristaltic wave of the stomach is travelling from left to right. In order to overcome the interference of these two currents the loop is turned around one-half, so that the neck of the loop now lies on the left side and the tongue of the loop on the right side. It is on the left side this inflowing is done. Wm. Mayo is reoperating practically all of his cases as soon as he gets regurgitant vomiting.

It seems to have been his experience that a great deal of trouble results from this vicious circle.

Dr. T. L. Chase: I have been much interested in the doctor's paper upon the surgery of the upper abdomen, especially that referring to the stomach. Last spring I had the good fortune to observe Mayo brothers' surgery of the upper abdomen, and discussed with them their ideas as to indications for operation in these conditions. I asked them the question regarding indications for operative interference in these cases, and they replied that in the number of cases that they had operated they had opened over 600 stomachs. Of course, where a surgeon has performed that number of operations he is well qualified to decide the indications for operative interference in surgery of the upper abdomen. He said that the indications for operation were cases which had been treated from time to time, and had apparently been cured by dieting and proper medication, recovered and resumed their ordinary avocations, but afterward had relapsed, were cured again, and finally there came a time when the relief that had previously sufficed was no longer of avail; that is, they had frequent relapses, lost weight rapidly, and required further treatment. In those cases he had opened the stomach through an incision half an inch to the right of the median line, extending from the ensiform cartilage down to an inch above the um-

bilicus, then opened the stomach and examined it. I saw a number of stomachs opened by Mayo that had given a history of frequent hæmorrhages, having vomited blood, which was also discovered in the bowel passages; still, when those stomachs were opened, the incision made and the mucosæ of the stomach turned out and examined by ocular inspection, it was found that there was no lesion apparent to the naked eye; but by taking a piece of gauze and going carefully over the mucosæ of the stomach touching it here and there, a point would be discovered where the touching of the gauze would incite an active hæmorrhage, thus disclosing a serious lesion. Those cases were all relieved by the operation that Dr. Van Lennep has mentioned, that of gastro-jejunostony. Wm. J. Mayo further mentioned that the subject was in a transitional state at the present time; but that the operation he felt to be of permanent benefit was that of Finney, where the duodenum and stomach are sewed together. Mayo demonstrates the incision through the peritoneal covering of stomach and duodenum, finally so enlarging the pyloric orifice, thus taking away irritation from the region where most of these ulcers occur. He said further, as to the diagnosis of these cases, that he very frequently had the indication for opening the stomach for an ulcer, yet upon making the incision had found that it was a diseased gall bladder, or an ulcer of the duodenum, or an active pancreatic disease. Nevertheless, it brings our minds to this point, that cases treated medicinally for long periods with the result that as soon as medication and dieting were discontinued and the patient was again examined it was found that deep pressure over the epigastrium produced sensitiveness which is one of the symptoms he considers an indication for operation, and that the incision I mentioned to you before will reveal all of these organs, and will show you where the lesion is, whether it be in the stomach, duodenum, pancreas or gall bladder. Then proper therapeutic surgical measures can be carried out, and just as Dr. Van Lennep said, our successful treatment of these cases is going to depend upon their coming early into the hands of the abdominal surgeon, when treatment can be applied, and these extensive operations where the greater part of the stomach and bowel have to be amputated, and the patients run to a mortality rate of 80 or 90 per cent., will be avoided.

Dr. W. B. Van Lennep: There is hardly a word for me to say except that I quite agree with the gentlemen who have been good enough to discuss my paper. I quite agree with Dr. Chase that the operations

FIG. 12.—Partial gastrectomy and pylorectomy have been completed: the sutured stomach opening has been turned in with button-hole suture, that in the end of the duodenum by a purse-string suture.

A posterior gastro-enterostomy, as in Figs. 6, 7 and 8, is begun, the parts, however, showing their relation when the organs have been replaced. Especially to be noted are the reversed position of the intestine and stomach, the opening still running from left to right, but from above downward, and there being practically no spur or kink. The direction of peristalsis, too, is identical in both stomach and jejunum.

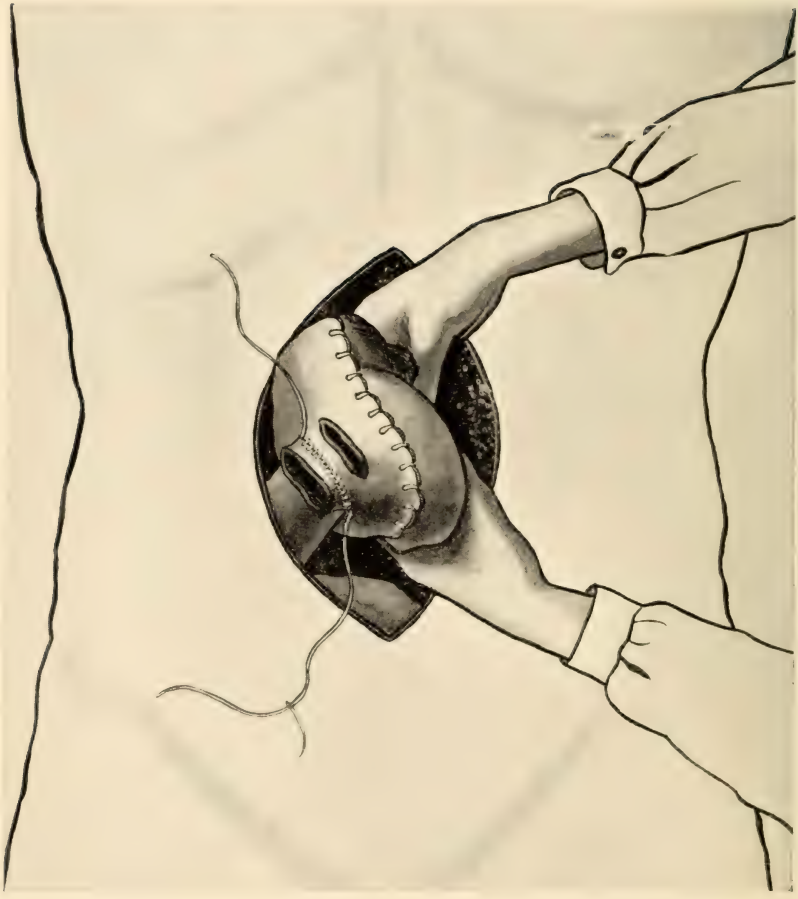

FIG. 13.—From Kocher. Same as in Fig. 12, except the continuous inturning suture and the beginning of a posterior duodenal implantation. The sero-serous protective suture has been carried half-way around and a through and through uniting one will follow. Absorbable bone-bobbins or even Murphy buttons are used by some operators.

of Finney and of Kocher are ideal theoretically, but, as a matter of fact, as I said in my paper, they do not accomplish what gastro-jejunostomy does, so far as we know at present. They fail to stop the bleeding, and they will not cause an active ulceration to heal. Until they bring about these results gastro-jejunostomy as a therapeutic measure must hold an important place. I am very glad Dr. Chase spoke of the incision he did. This is what is known as Mayo-Robinson's incision, carried out with a sand-bag underneath the back to throw the liver forward and allow the intestines to bag downward, the Trendelenburg position, so to speak, of the upper abdomen. This is the incision that I personally am in the habit of calling the one over the storm center. It exposes the outlet of the stomach and the head of the pancreas. It enables us to turn up the liver and inspect and palpate the bile ducts throughout their entire course. In other words, it exposes all the lesions in the "storm center" of the upper abdomen. In regard to those villous or weeping patches, as they are called, the opinion of surgeons who are doing work in the abdomen is that we should not meddle too much. For instance, we say the patient has gastric ulcer. We open the abdomen and cannot find gastric ulcer. Sometimes we will be able to recognize a so-called sentinel nodule, just like a node of carcinoma. That tells us inside the stomach there is a round or fissured ulcer. In those cases we cannot feel or see anything that will lead us to suspect that there is ulceration inside of the stomach. The same is true in regard to villous patches. We cannot see or feel anything on the outside of the stomach that would lead us to suspect there might be trouble within. I believe the conservative treatment of operators in these conditions would be not to hunt for these ulcers, not to hunt for these villous patches. If I remember rightly, the gentleman referred to by both the previous speakers, Wm. J. Mayo, is the very man who says, "Don't look too far." If I remember rightly, he says, "A good prognosis is better than a good diagnosis." Don't hunt for the ulcers you can't see on the outside. Don't hunt for weeping patches, but go ahead and apply the indicated remedy—gastro-enterostomy.

REPORT OF THE

SECTION OF SANITARY SCIENCE.

Sanitary Clothing, by R. L. Piper, M. D.
The Salt River Climate (Arizona), by Bernard E. Bigler, M. D.
Food Impurities and Adulterations, by J. D. Boileau, M. D.
Human Environment, by W. E. Rotzell, B. S., M. D.

SANITARY CLOTHING.

R. L. PIPER, M. D., TYRONE.

Ever since the days when Adam and Eve trod the Garden of Eden clad only in the raiment of undefiled innocence, and by their transgression against the laws of God created the necessity for more material clothing, the question of what we shall wear and how we shall wear it has proven a source of never-ceasing anxiety to the human race. Shall it be full dress (characterized especially by lack of material), undress or redress? That is the question. There must be a dress for the weather, a dress for the time, a dress for the occasion, a professional dress, a business dress, a social dress, a menial dress, a religious dress. Because you and I well know, although we may agree with Robert Burns that—

> "What though on hamely fare we dine,
> Wear hoddin' gray an' a' that;
> Gie fools their silks and knaves their wine,
> A man's a man for a' that."

We are very frequently judged by the clothes we wear. Did I hear you say: "What should a physician wear?" Just let me in a quiet sort of consultation way tell you. A physician should wear a suit of armor, covering his body so completely that not even the

tendon of Achilles would be exposed, so thoroughly welded and firm in its structure that it would be utterly impervious to the shafts of ridicule and slander, yet so delicate in its mechanism that it would be susceptible and sympathetic to the minutest rays of suffering and sorrow. Are the Amens unanimous?

But laying aside all figurative expressions, we, as physicians, are vitally interested in the question of clothing for ourselves and our patients. The almost constantly varying climatic changes occurring throughout the State of Pennsylvania, especially throughout the mountainous portions of the State, render its inhabitants susceptible to catarrhal and rheumatic ailments, unless the wisest and most diligent precautions are taken to prevent them. These precautions consist not only in preserving a proper mental and physical equilibrium by observing and practicing sanitary and common sense rules in regard to exercise, eating, drinking and sleeping, but especially in regard to clothing. And I venture the prediction that more people acquire disease by being over-clothed than by being under-clothed. The "barefoot boy with cheeks of tan" can give away a few years of good solid health to his pale-faced, spindle-legged, silk-stockinged, money-to-burn city visitor and still live the required three score years and ten.

Life, that little word that is spelled with four letters, whose definition no one in this assemblage has ever dared to correctly interpret, is constantly producing heat. The chemical changes taking place in that beehive of industry, the human body, produce a sufficient quantity of heat to cause death within a few hours if part of this heat were not eliminated. The normal temperature of the human body, regardless of seasons, should be about 98½ degrees F. Hence we must eliminate all heat produced above the quantity, which is necessary to preserve that temprature if we desire to remain in a normal condition of health. As you know this elimination is produced in three ways, namely: by radiation, by evaporation, and by conduction, which shows that nature believes in having reserve forces on hand for emergencies. The loss by radiation amounts to more than one-half of all heat lost, and is produced by the difference in temperature of our bodies and that of the surrounding objects, atmospheric or otherwise.

Evaporation is produced when the surrounding object is warmer than our bodies. It is intensified by dryness and impaired by humidity. You all have noticed the fact that we are much more comfort-

able on a summer day with a dry atmosphere than on one with great humidity, although the temperature be the same.

Conduction is regulated and controlled by the extent of the air current, and it is also a well known fact that we feel excessive cold as we feel excessive heat, much more in a moist than in a dry climate. Hence, to maintain as nearly as possible, a normal condition of temperature, it is necessary for our skin, as well as the air and clothing immediately surrounding it, to be kept as dry as possible. *To do this we must wear clothing which will not interfere with a proper elimination of the amount of heat of which our body has to dispose.* The protective feature of clothing depends upon its porosity or air-holding capacity.

Experience and observation have taught me that garments composed of linen or cotton loosely knit and porous in their structure are much more efficient for this purpose when worn next the skin than those composed of wool. The most ancient authority I can give is Moses, who, in Ezekiel, 44th chapter, 17th and 18th verses, says: "They shall be clothed in linen garments and no wool shall come upon them; they shall not gird themselves with anything that causeth sweat."

Woolen garments are deficient in the power of absorbing and eliminating moisture; consequently, while a woolen undergarment will impart a feeling of warmth and comfort to a dry body, when by reason of exercise or excessive surrounding heat evaporation is increased, the woolen garment becomes moist, further evaporation is seriously interfered with, and then necessarily follows a feeling of oppression caused by retention of heat. Then let our bodies be exposed to a draught of cool air and a cold almost invariably results. The same process of reasoning would make woolen garments the best material for over-clothing in winter, while those composed of loosely knit and porous linen or cotton, linen especially, would be the ideal undergarment. Of course, the proof of the pudding is in the eating. Theories often build beautiful air castles, but facts come along and knock them into smithereens. The doctor who covers too many sheets in expatiating upon his hobby may be accused of having a diarrhœa of words and a constipation of ideas.

But we all have patients who are extremely susceptible to nasal and bronchial catarrhal conditions and aggravations. A sudden change in the weather, a little violent exercise producing perspiration, a draught of air means work for the doctor. It does not seem right

to throw away a good thing, especially when we need the cash, but we are the conservators of the public health even at the expense of our pocketbooks. About a year ago I experimented with several patients of this class by advising them to wear porous linen underwear and cotton stockings instead of the time-honored wool. To my gratification the consequence was that during the extreme weather of the past winter and spring and our cool summers they have enjoyed a degree of health far superior to that previously experienced. Another abomination which should be entirely abolished is the patent leather shoe. The reason is exactly the same as that given for the clothing, interference with proper elimination of heat and moisture. In regard to the so-called medicated underwear I have had no experience with it, consequently I cannot give an intelligent opinion.

In fact, my experience with linen mesh and cotton fabrics for winter underwear is as yet in the experimental stage. But I believe they are advocated upon proper hygienic principles and will prove of far-reaching benefit to the majority of our patients. Unfortunately these patients are born with certain idiosyncrasies. In many cases these idiosyncrasies are aggravated by dissipation. To be successful physicians we must make a careful study of each individual case and prescribe accordingly, not only medicinally, but hygienically. For this reason I earnestly solicit a full discussion and criticism of my few thoughts upon sanitary clothing.

DISCUSSION.

DR. AUG. KORNDOERFER, SR: The subject is one that has interested me for a number of years, though I had not expected to open the discussion upon it until the doctor spoke to me this morning and asked me if I had any interest in the subject. About thirty years ago I was led to examine into the influence of wool, cotton and linen goods upon the health of human beings, and was led at that time to adopt cotton by preference for myself, since which time I have recommended it and later on linen. Since linen mesh became a commercial garment and could be procured regularly I have recommended it in many cases. The great objection I have to linen is its harshness. Many patients find it is harsh and uncomfortable. The softer linen mesh is not economical, it breaks, and the harder is very apt to break and run into holes, before age should have worn it out, making it very

expensive to wear. Therefore, it is difficult to introduce among patients, but so far as health is concerned there is no doubt in my mind that woolen goods next to the skin are not desirable, save for one class of patients. Take a patients who is always complaining of an extremely dry skin, whose skin is never moist, and I allow him to wear wool; but rheumatic, gouty and neuralgic conditions I have in a number of instances in my practice during thirty years been able to overcome entirely simply by the substitution of cotton or linen underwear for winter use instead of the wool usually recommended. I remember a little incident that occurred a number of years ago. I was sent for by a lady to see her little girl, who was suffering from bronchial catarrh quite severely. She told me a few weeks before, while shopping for the children's clothing for winter, she had seen some very soft, nice woolen underclothing, and thought they were so very nice she purchased them. She had put the child in wool about ten days before it contracted this cold, the first cold the child had suffered from. She said, "Doctor, I remembered after I had bought them you told me five years ago not to let the children wear woolen undergarments. I never thought of it until I put the clothing on the child. This is the first cold the children have had for years, and I will never buy woolen undergarments for my children again." From that time to this I have never yet recommended cotton goods or linen goods to a patient that the patient was not benefited by their use. I individualize to a degree and always avoid recommending them to that class of patients who complain of a dry, cold skin. Those, as a rule, I find do better with woolen undergarments, but the average patient who has a normally moist skin or a skin inclined to too much moisture, especially those inclined to sweat during cold weather, I find get much better results from a health standpoint by the wearing of either cotton or linen underwear. I have never considered wool hygienically the best thing. No one looking at a flock of sheep and seeing the amount of skin disease, or taking them by the thousand, and finding two or three hundred out of every thousand diseased, and then thinking of the great number of cases of anthrax and footrot we find among sheep, can doubt the evidence that the wool of that animal cannot be a hygienically and sanitarily good wearing material. From that standpoint I was led to think of cotton and linen. For over twenty-five years it has been my rule to use either cotton or linen by preference in my practice,

and invariably upon myself. Once during the last thirty years I made a change from linen or cotton to wool, and that led to such troublesome neuralgic pain and such frequent catarrhal conditions of the bronchial tubes and throat during two winters that I felt confirmed in my opinion. The second winter was entirely an experiment with me. I did it purposely to find out if it would produce ill effects. The first winter was more than twenty-five years ago. That winter I suffered from three attacks of bronchial catarrh, a thing unknown to me before. The following winter I again started wearing woolen underwear and had I think four attacks of throat and bronchial catarrh during the winter. Since then I have abandoned it and suffered in no way to my knowledge.

Dr. Robert Walter: I have experimented considerably with underclothing, and the principle which I think underlies good underclothing is that confined air is the best non-conductor. I have to cover steam pipes sometimes. If you can cover your steam pipe with air that cannot get out you will save your heat. If you will cover your bodies with clothing which will confine the air, the heat will not get away from them. Water, on the contrary, is the best conductor. If you get water on your bodies or clothing it carries off heat very rapidly. In the summer time I wear linen underwear. I do not like it very well, but a few years ago I tried another plan, which I suggest to you. My good wife knits for me shirt netting, silk netting, just as open as you please, only that it keeps the other clothing away from the body and confines an amount of air next to your body. You do not want to have the outer clothing touch the body at all if you can help it. Air is the thing to keep you warm. In the winter I always put on a silk net undershirt, and it is far warmer than any wool or linen or anything I have ever tried. Just the silk net, knit it with a crochet needle, wear that next to the skin and you will find that you will be warm and comfortable to a degree you would hardly anticipate.

Dr. Chandler Weaver: I have experimented a good while to prevent myself from getting cold in winter. About two years ago I was covering my body with woolen underwear, and had a closed carriage, and still would get cold. It took a good deal of moral courage to take those heavy shirts off and put on linen, but I could see the principle in it. One night I dressed in a linen undershirt, walked about a mile, delivered a very hard case and came home in a

glow of good health. If I had my woolens on I would have come home in a blanket of sweat and been in bed two or three days afterward reducing high temperature. My distinction is the same as Dr. Korndoerfer's. It is the perspiration that gives you the cold. A person who is rather nervous, like myself, coming in to see a patient and getting flustered, would be all in a sweat. He would come out, and even if he had a closed carriage, the air would strike him before he could get into it. Such a person needs linen or cotton underwear, but the dry person who has no perspiration needs the woolen variety to keep his skin and capillaries warm.

Dr. T. L. Chase: It seems to me the question of clothing that has been brought up in this interesting discussion is sometimes a matter of individual peculiarity, but mostly depending upon climatic conditions. We have just heard theories regarding individuals putting on netting in cold weather or putting on linen mesh in cold weather. Let them try that up in the Canadian woods, or go still further North in the Klondike, and see how long they would last. They will succumb the first year. The only way you have of proving that is to go and live in the open air for a little while. How is it with lumbermen in the North Woods? You find everyone of them with three layers of flannel on. They put it on because they could not stand it if they had anything else. They cannot put cotton on. You can put on a rubber coat and keep out air, but that brings on such a perspiration that then there comes a chill. Wool being a non-conductor of heat and cold, even if people are in a perspiration and a cold draught of air strikes them, it does not chill them immediately. That effect takes place slowly. On the other hand, if you have cotton or linen and you are in a perspiration, the cotton takes up this perspiration immediately. You are covered with a wet pack. The minute a draught strikes you, you chill.

Dr. T. J. Gramm: Some years ago it was the fashion for everyone to be dressed in blue flannel. Children at the seashore and ladies there were dressed in blue flannel. Anybody who did not have on blue flannel was not in style. Styles have changed, and outside clothing is now so thin that if it gets much thinner they will reduce it to the screening cloth that they use in flour mills. When ladies indulge in exercise, when they are going to play tennis or golf or anything requiring severe exertion, they put on winter clothes or

put on flannel. Men have discovered the advisability of doing the same thing. A man who is in training, or about to take severe exercise, puts on a sweater, and when he comes home from his exercises you will find him sitting in a heavy woolen sweater alongside a girl who has on this thin material. You see the incongurity and improper relations of things in this connection. I have seen, and doubtless you have, ladies riding in open trolley cars in weather like this morning, though perhaps not so cold, dressed in clothing that evidently has no wool in it at all. They apparently have no wool upon their persons. It is true, you may be chilled down lower and lower and yet feel good up to a certain stage, provided your reactive abilities are in proper and normal condition. If they are not you will be chilled on just such a morning as this. We know lately from our extensive investigation in microscopy of diseases of the ovary that there are changes going on there that are enormous in extent and very common. These conditions are so common, it is said, it is difficult to determine what is a normal ovary. These conditions must be brought about by certain congestive conditions, and I cannot think that the other circumstances of the lives of women are so absolutely wrong as to always reflect and always produce this one condition by itself. I cannot help thinking that the pretty general condition of chronic inflammation, congestion and cystic changes of all sorts, with their reflex nervous symptoms, in which we find diseased ovaries, is produced by the very frequent and common chill to which they are subjected, particularly at the menstrual period. It is simply out of the question that they change their clothing from day to day. Styles do not change that often. They are only expected to change their clothing as often as the styles change, but if they recognized the fact that the circulation in their bodies, the waste and repair, is so altogether different during one period of their monthly life, that they are then subject to disease and to very serious danger from internal disease, I think we would have a difference in this connection.

Dr. R. L. Piper: My information, observation and experience teach that nine-tenths of the cases of catarrhal conditions come from becoming overheated. The material next the body, being a nonconductor of heat, retains this heat, and people are exposed to sudden chills. That is my opinion, and I think the majority of the members present will agree with me.

THE SALT RIVER VALLEY CLIMATE (ARIZONA) AND ITS EFFECTS UPON NOSE, THROAT AND LUNG DISEASE. (ALTITUDE, 1,000-1,300 FT.)

BERNARD E. BIGLER, M. D., COLORADO SPRINGS, COLO.

Every physician, if he wishes, may visit different climates and give his views upon their good and bad effects on certain diseases, but, unfortunately, few avail themselves of the opportunities to study climatology while away on their yearly vacation. On the other hand, to a certain number is given the undesired privilege of seeking the efficacious results of a certain climate and often of many, and to this group should fall the lot of giving an opinion concerning their respective merits.

No one can give a correct statement in regard to any climate unless he has been closely associated with the invalids of that particular region and unless he has also been a resident of that part of the country at least six months or a year. Better still is it if he is an invalid himself. It is astonishing and pitiable how many of our supposedly well-read physicians are sadly lacking in this knowldege of climates. Often a physician will send a poor, weak consumptive, in the last stages of the disease, to the same climate to which he has previously sent one who has only showed its incipiency, not recognizing the fact that these two cases needed entirely different treatments.

My views may be rather strong, but I saw so many, hundreds I might say, to whom the climate was entirely unsuitable, and others in such an advanced stage of the disease that they had to be carried on stretchers from the train, their physicians having put off and put off sending them away, hoping in all faith to abort or arrest the dread disease, and who were, alas! in a little while shipped to their homes again in pine boxes.

The Salt River Valley of Arizona, of which Phoenix is the metropolis, has, in the last few years, become a veritable Mecca for thousands of consumptives and some nose and throat cases, the greater number of whom have come by the advice of physician, family or friends. They have merely been told to "Go West" or "Go to Ari-

zona," their advisers actually knowing little or nothing of the suitability of the climate to which they are sending these poor, hopeful invalids. Having spent six months in this region, I wish to help others indirectly, through their physicians, if possible, in seeking the proper climate.

I will first quote Weather Bureau statistics for the year 1901-1902 to give some idea of the exact weather conditions for that year in Phoenix, and this can be taken as a standard for the whole surrounding valley.

	Temp. Mean 8 A.M.	Mean 8 P.M.	Extremes Max.	Extremes Min.	Humidity Relative 8 A.M.	Humidity Relative 8 P.M.	Rain in Inches	Clear	Part Cloudy	Cloudy
January,	42.9	61.6	75	24	60	34	.43	15	6.	10
February,	46.3	64.8	85	34	77	42	1.46	11	7.	10
March,	47.9	71.1	87	35	52	24	.23	21	5.	5
April,	51.4	78.5	92	39	42	15	T.	18	9.	3
May,	60.9	86.8	98	50	41	19	.10	18	11.	2
June,	67.6	96.9	112	59	27	10	.00	26	4.	0
July,	80.0	103.9	112	72	47	20	.35	17	14.	0
August,	78.7	103.2	110	70	60	26	1.73	19	10.	2
Sept.,	68.2	95.2	105	53	40	17	T.	28	2.	0
October,	59.8	83.0	100	41	52	25	.46	22	5.	4
November,	57.3	71.7	86	44	66	33	.01	17	7.	6
December,	39.5	61.7	80	24	44	20	.00	21	8.	2
Year,	57.9	81.3	112	24	51	24	4.87	233	88.	44

Snow . . . . . 0.
Fog . . . . . 2—Unusual.
Max. Temp. above 90°—159 Days.
Highest Temp. June 1883—119°.
T. Trace.

One can readily see by glancing over this condensed weather report why so many invalids are sent to this climate with a relative humidity for the year of only 51 and 24, respectively, for 8 A. M. and 8 P. M., and 233 clear days out of the 365. The climate, too, is very moderate in winter, 24 being the lowest recorded for this year. But one cannot say the same of the summers, for if it were not for the great dryness the heat would be unbearable.

I will not discuss the effects of this climate upon nose and throat separately, for what affects the one affects the other. But I will say,

emphatically, I would never send a nose or throat case to this climate to derive benefit.

By careful inquiry, and from my own experience, I found in those suffering from rhinitis or pharyngitis or laryngitis, a decided aggravation of their disease, and, morever, those free from such affections were very prone to acquire one or all, especially rhinitis. The great quantities of dust and sand accompanying the frequent wind storms and the extreme dryness irritate a healthy mucous membrane, and in those already diseased, tend to aggravate all the conditions present in nose or throat, no matter whether atrophic or hypertrophic, tubercular or non-tubercular.

The mucous membrane is called upon to give out moisture much more rapidly than in a less dry climate, and the normal discharges, whose duty it is to lubricate and cleanse, thicken, forming crusts throughout the nasal passages, thus giving rise often to complete closure of the openings, making a hot-bed for germs to take their hold; the dust, of course, keeps the passages in a state of constant irritation.

As to the good and bad effects of this climate on pulmonary disease (tuberculosis), the cases I found deriving the most benefit and those who had been practically cured had been in an advanced stage of the disease. The mildness of the climate enables one to be in the open air all winter, twenty-four hours out of the twenty-four, in a tent or screened porch at night, and in the sun, on a reclining chair, during the day. But now we come to the point I want to emphasize especially. Those cases in the advanced stages, and weakened by the ravages of the disease, can, with a great degree of comfort, be out of doors constantly, the climate being so moderate and warm that the tendency to severe chills is greatly diminished, and often speedily vanishes. Even in the summer months these patients can sit out of doors in the shade and be quite comfortable. Of course, these cases comprise those who can take little or no exercise. On the other hand, I found many in the first stage of the disease deriving but little or no benefit. Most tubercular patients, before contracting the disease, have led energetic, active lives, either mentally or physically; when, therefore, you put such an one who scarcely feels sick, and who is ambitious and active by nature, and advise rest in a climate that to my mind is enervating in the extreme, you cannot expect him to derive the benefit he could obtain in a higher altitude and more

bracing air, where he could derive equal benefit with less exercise and yet not suffer from the debilitating and enervating action of the heat.

In the last week of November of the fall of 1903, the thermometer registered 90 or above for quite a time and in February of this past winter it ranged from 90 to 95 in the shade at 2 P. M. for over a week. It is rarely below 75 any time during the winter at mid-day. There is a marked drop in the temperature at sundown, the nights being always pleasant, winter and summer.

In summarizing, I wish to say that cases that markedly show and feel the effects of the disease and need absolute rest, or nearly so, are the ones that seem to derive the most benefit from this climate. On the other hand, for cases running a very moderate temperature of 99 to 99½, with no severe symptoms, a higher altitude and more bracing air is much more beneficial than the climate of the Salt River Valley.

I can verify my statements in every respect, having been brought in close contact with patients suffering in all stages of the disease.

FOOD IMPURITIES AND ADULTERATIONS.

J. D. BOILEAU, M. D., PHILADELPHIA.

Although aware of the fact that many articles of food and drink, as well as drugs used in the healing of the sick, were adulterated, yet not until looking up the subject more fully did it become apparent that almost every article of both food and drink is subject to adulteration, amounting in many instances to substitution; or are contaminated with foreign matter more or less injurious to the health of the consumer.

Impurities consist chiefly in something inherent in the thing itself, due to its nature, as immature, partly decayed or diseased meats or dairy products. The impurities may be due to some foreign substance from without resulting from lack of cleanliness in handling, carelessness and neglect. Vegetables that are eaten without cooking, as lettuce, radishes, celery, may be polluted by the soil in which they are grown.

Adulteration is the wilful addition of some substances foreign

to the article itself for the purpose of adding to its weight and bulk, reducing the cost of production, improving the appearance, or for preserving from decay and deterioration.

Time and space will only permit us to consider a few of the more common adulterants used, and try to show some of the consequences resulting that an interest may be awakened that will lead to a more determined effort being made to correct the abuse.

The facts stated are based on official investigation, the data is mostly taken from the bulletins of the United States Department of Agriculture, Division of Chemistry. It is taken from a mass of matter too voluminous for general use. Most of the bulletins are several years old, and are out of print, and I am advised by Mr. Wiley, chief chemist of the department, that no recent publications on the subject have been issued. These bulletins are made up largely from the work of the various State sanitary bodies. The question of water pollution and drug and milk adulteration we shall not consider, as either of these alone would afford more than ample for separate consideration, besides with these we are all more or less familiar.

Let us notice with what some of the more common and necessary articles of food are adulterated.

Bread—Alum, sulphate of copper, white clay, ammonia.

Flour—Not so commonly adulterated in this country, but it has been found to contain, flour other than wheat, as cornmeal, rice meal, ground peas, spoiled grain, alum and clay.

Butter—Coloring matter as turmeric, aniline and carrots, oleomargerine, cotton seed oil, lard, suet and rancid butter churned with lard in sweet milk and alkalies.

Coffee—Ground package coffee offers a wide and promising field for deception. Beans, peas, corn, acorns, hulls and skimmings, which is the musty, mouldy beans, and sweepings swept from the wharves and warehouses. Five samples examined contained:

1. Ash 4.16, chickory and barley 33, peas, 33, coffee 33.
2. Ash 4.43, chickory 6, rye, 65, coffee 25.
3. Ash 4.33, chickory 10, rye 40, peas 25, coffee 25.
4. Ash 6.70, chickory and cedar wood 10, coffee 90.
5. Ash 4.20, chickory 5, peas, etc., 80, coffee 5.

Whole coffee is manipulated by a process of steaming, coloring, greasing and polishing to increase the weight and color and make a poor, inferior grain look plump and of greater value. Some time ago

there was placed on the market a manufactured whole coffee bean. It was wholly foreign to coffee, but in appearance alone it was a fair substitute. For a time it had a large sale among the jobbers, who in turn sold it to the retailer, who used it to adulterate; it being very heavy, answered his purpose admirably.

Teas—Willow and other leaves, clayey matter to give weight, tea leaves once used, coloring matter, as Prussian Blue, Plumbago, Salts of Copper are all used.

Molasses—68 samples examined, the salts of tin was present in 33 which were examined by Dr. Wood, of Mass. Board of Health. Dr. Ibbott says, this is very poisonous when given to animals, and in ¼ to ½ gr. doses produces acute poisoning and death.

Other samples of molasses contained glucose and dextrine while 22 samples out of fifty examined contained glucose, and the salts of tin. Baking Powder should contain only bicarbonate of soda and cream of tartar.

Yet possibly no article in general use is more frequently adulterated. Alum is most frequently used, ammonia, flour, soap stone and clay are used.

Canned goods of every description, whether it be meats, fruit or vegetables, are almost always affected by the metal of the can containing them, and this to a greater extent after being exposed to the air. In addition to this many have preservatives added and are colored. For this purpose the sulphate of copper is used for greening. In a large number of French peas every specimen was found to have been treated in this way.

Ground Spices—Are subject to frequent adulterations; so true is this that it is difficult to find a specimen that is pure. It would seem that those spices sold in bulk are the least reliable. Some manufacturers sell only pure goods under a label, while others put up two grades, one pure and the other adulterated, while others sell no pure goods at all. The adulterants used are ground hulls, crackers, Indian meal, flour, ground rice, and cocoanut shell, clay and earths. It is said that one enterprising concern in Philadelphia made cakes out of a cheap meal, baked them, and after drying them in various colors to suit the purpose for which they were intended sold them to the spice grinders. Still they say we are a slow town.

Beer—Grains other than malt, quassia, aloes, picric acid to replace the hops or improve the color, burnt sugar, soda to make it lively, and salicylic acid to prevent it from becoming sour.

Orange Cider—An analysis proved a number of specimens to be sweetened water, with citric and tartaric acids, with orange oil or extract added. Cost 16 cents per gallon, sold for $2.50 per gallon.

Coloring Matter—Is used very extensively in food products, especially in canned goods, confections and dairy products.

Here are only a few of them: French chalk, charcoal, drop black, yellow ochre, Venetian red, chrome yellow, burnt umber, turmeric indigo, copper sulphate, Silesia blue, together with the whole line of analines. Turmeric is used to replace the golden yellow of eggs, while chrome yellow (chromate of lead), which is very poisonous, is used for the same purpose.

Preserving and bleaching powders, sold under a label, one to be used to bleach and whiten lard was caustic soda, another, "snow white," to be used for the same purpose, was boracic acid, borax and salt. Still another, "preservatine," boracic acid, salt and cochineal. To this list of proprietary gems we have the well known preservatives salicylic acid, formaldehyde and sulphate of lime.

Cotton seed oil, while often sold as such, is used largely as an adulterant, being substituted for or added to olive oil. It is also used very extensively in dairy products.

I want to emphasize the unfitness of much that is sold to children. Stale cakes and candies, snow balls, unripe or over ripe fruit. Candies are, perhaps, adulterated more frequently than anything else, especially the cheaper varieties. Clay starch and dye stuffs being used, while in both candy and snow balls artificial flavoring matter is used almost exclusively. In addition to this much that is sold to children, especially by venders at recess, at the public schools in the cities, is filthy, having been carried about for days exposed to the dust of the street, then carried to the unsanitary homes of the vender for the night to be offered for sale again the next day. Repeated handling with soiled hands, which are often made to do the duty of a handkerchief. I have seen the handkerchief, long a stranger to the laundry, used to wipe off and polish up the goods. The thought is revolting, yet children are fed on these things. These things are not an example of a few isolated cases, but, on the contrary, are only a few selected from the many. In some instances of milk inspection the proportion of adulteration was as high as 72 per cent. of the number of specimens examined. Then it must be borne in mind that this is taken from the official records of the United States Government, and is compiled by the aid of the State boards

and chemists of almost every State in the Union. The number of specimens tested, the result of the analysis in each case, with comments as to the effect on the human system, are given, but purposely omitted here.

Impurities other than adulteration in food are no less common. In meats we have the slaughter and sale of immature calves, tuberculous and otherwise diseased cattle and sheep, stale, soaked out and restored poultry, eggs and meats long kept in cold storage, to these are added preservatives, restoratives, bleachers, and coloring matter, boracic acid, saltpetre and formaldehyde.

Canned—Many specimens are found to contain tin, lead, copper and zinc from the cans in which they are preserved, together with the usual coloring matter.

Other impurities find their way into food supply from exposure and handling. Lard, sugar, meats, bread, crackers, and many others are exposed to street dust and other filth. Milk and dairy products from diseased stock is still further contaminated by carelessness in handling due to ignorance, or, worse, criminal negligence. Recently I saw a farmhand whose hands and clothing were filthy from spreading fertilizer, proceed to milk a herd of cows.

A gigantic fraud is being thus perpetrated on the community; the consumer and more especially those of the poorer or middle classes suffer the most, for, because of the cost, they are compelled to patronize the cheapest store, and pay a high price for an article whose intrinsic value is lessened and its food value reduced. It results in the cheapening of farm products, lessens the profit of the honest dealer, and is robbing both the producer and the consumer. It interferes with export trade. Our foreign neighbors use it as an excuse to exclude, or place obstacles in the way of placing our products in their markets, at the same time poisoning us in turn with their colored French peas or brandies.

The reports to which we have referred say: "Heads of wealthy and reputable firms unhesitatingly testified to the fact that they sold compound articles of food branded as pure, and then prayed Congress to enact laws which would compel them and their fellow dealers to be honest."

Attempts have been made to form some estimate of the gain to the dishonest dealer and the consequent loss to the consumer resulting from food adulterations. The lowest estimate has been placed at $225,000.00 by Dr. Abbott, of Massachusetts, and at $675,000.00 by

A. J. Wedderburn, special agent of the Department of Agriculture. He says that Congressional investigation of the hog products and of lard especially clearly shows that my estimate is below rather than above the mark. This was wirtten in the last pamphlet published on the subject fourteen years ago. It must be borne in mind that the practice of adulteration is on the increase as well as the volume of trade done.

Of still greater importance is the effect produced on the health and life of the consumer of impure foods. We are told that much of the adulteration is not injurious to health, and that it does not destroy life. By some the substances used in adulteration are classified as injurious and the non-injurious, and we are expected to thank God, if not the dealer, that, after having been robbed, we have escaped with our life.

I hold that it is impossible to use food that has been adulterated in any degree without suffering to some extent from its use. If an infant is fed on milk below the standard it suffers, but if a preservative be added the infant suffers still more, even though the preservative be not an active poison. If sulphate of copper in French peas is injurious if taken in large quantities, it is only less injurious if taken in smaller quantities. If, as is claimed by Koch, tuberculosis is not transmisable through the use of tuberculous meat and milk, yet most of us would prefer ours without being thus contaminated, if not for sanitary reasons then because of the æsthetic. If coffee retards waste, and is a stimulant, and one needs it, other than coffee will not produce the result, and the consumer will surely suffer, or is injured for the lack of it. Other substances are admittedly injurious, and instances are not infrequent where death has resulted, notably in chrome yellow (chromate of lead) in buns in Philadelphia a few weeks ago. The remedy lies in educatinng the people on the subject, more especially physicians, and those who make our laws. Then suitable laws must be enacted, and they must be judiciously enforced. Many States have such laws, all more or less ineffective, and carried out, if at all, with spasmodic efforts, followed by long periods of repose. In some instances this is due to insufficient appropriations, this in turn being due to the utter lack of appreciation on the part of the people, and our legislative bodies of the importance of the question. Then let us agitate for good State laws, with sufficient appropriation and energetic enforcement.

DISCUSSION.

Dr. T. J. Gramm: I think this is a very timely subject when health boards all through the State are taking action upon this matter. Consequently, I am very glad to hear the subject brought to our attention. Among my own personal observations I passed through an epidemic of poisoning by chromate of lead in the northwestern section of the city of Philadelphia some years ago. The number of lead poisoning cases was simply astonishing from the use of chromate of lead in adulteration for the purpose of coloring cakes baked by bakers. The same process of adulteration for the purpose of giving cakes a color has now again arisen. I was in hopes the doctor might have made some personal examination and investigation on this subject, and would touch upon this point. I think that physicians ought to take a definite stand in their own neighborhoods in this matter, particularly if they have things upon their tables that come from the bakery. Then there is another subject. I do not know whether you have observed that if you go into a grocery store it is almost impossible to buy molasses if you ask for molasses. They will give you some syrup. They will not sell you molasses. You will have a fight if you insist upon getting molasses. They will give you "syrup" in large letters, or "molasses" in large letters and underneath that, in small letters, "compound." Therefore, the label reads "Pure Syrup Compound." This matter has another side, and I speak more in the interest of some of my friends who are in the habit of using beer. If glucose is harmful the fact ought to be known. If that is used in the manufacture of beer it might be harmful if used in great quantities. I would be glad to know if anyone can inform us whether it is injurious to use glucose in the large quantity we are in the habit of using cane sugar. It was believed to be so some years ago when a crusade was made against the use of glucose in quantity in articles sold to children. If it is injurious to children it must be injurious to adults, particularly to those who habitually drink beer. To show how widespread is the adulteration of substances we habitually use there have been several prosecutions of firms that sold vinegar that was produced artificially. The old way of making vinegar was simply to allow cider to undergo the acetic fermentation after it had been partly subjected to an alcoholic fermentation. That is a natural process which will perfect itself unaided by the addition of anything. Cider vinegar is what housekeepers always would like to get.

It is the acetic acid that gives the desirable flavor to that condiment. Most of the vinegar produced today, unless you get it from some one who has made it himself, is produced from low forms of sugar from the refineries, molasses and lower grades of sugar that come there from the South for manufacture. This is fermented, that is to say, the vinous fermentation is first produced in this sugar, and what is called a low proof spirit is produced, and as evidence of this you may know that often the manufacturer of vinegar will likewise make a high proof spirit. Then they produced alcohol and the other products which may be made from high proof spirit. This spirit is transformed by fermentation into the acetic fermentation, then you have vinegar. Vinegar so made is clear white or very pale. It is then colored with burnt sugar, like some other preparations. I do not think that is an injurious preparation to use. Nevertheless there has been a crusade and prosecutions of manufacturers of vinegar produced in this manner, and I think in that instance the crusade was not well advised. I would like somebody to tell me about that glucose question.

Dr. Robert Walters: I did not expect to say anything upon this subject, but there are one or two thoughts I would simply throw out for your consideration. In the first place, I would like the members of this State Society to see if they cannot exert a little influence in the communities in which they live with regard to punishing people who are engaged in this criminal practice. I notice from the reports, as we get them in the newspapers, of trials of people who are engaged in criminal practice of this kind. They are let off with a light fine, or it is said, "We will let them off this time." After a man has been convicted one or two times possibly they may fine him a moderate sum, but the general sentiment of the people is not aroused to the importance of convicting and punishing criminals who adulterate foods, and also, for that matter, criminals of all classes. It has gotten to be dangerous to walk along a country road or on the street in the city. We do not know what moment we will be held up at the point of a pistol and robbed, and the miscreants who commit such a crime are given three monthts in jail for highway robbery. I know one man who had attempted to kill a constable who arrested him by shooting him in the back of the head. He was kept in confinement for a few months and then let off without a trial. I wish people of America would be aroused to a spirit of justice and insist that crimi-

nals should be punished. I want to say something else on this matter of vinegar. Why do you use it anyway? I am happy to say for 40 years I have not tasted a bit of vinegar, and I would as soon think of tasting vinegar as I would taste beer or whisky or smoke tobacco. Why do we do any of these things? Suppose the members of this body would set a good example to the community. Society and the government of the world is built upon earnestness, and if you and I are going to be successful in the affairs of life we must build ourselves upon earnestness. Let us be right individually and then we will make a long step towards the redemption of the race.

HUMAN ENVIRONMENT.

W. E. ROTZELL, B. S., M. D., NARBERTH.

By heredity is understood the transmission to offspring of the characteristics of one or both parents. This being true, it becomes a matter of much importance to consider thoroughly from all standpoints the characteristics of the parents and those conditions which produce or modify them.

These characteristics are either congenital or acquired. The study of characteristics is in reality the study of variations, for when reference is made to certain characteristics possessed by a particular individual it means that that individual differs or varies from those with whom he is compared. A characteristic, therefore, is in a sense a variation, and hence variation constitutes one of the most important of those subjects which pertain to heredity.

In the study of variations it is recognized by all biologists that among all organic forms no two are absolutely alike in all particulars. It matters not whether the comparison be made between plants, the lower animals or mankind, each differs from the others with which the comparison is made. The variations may be slight or marked, but variation there always is. No two forms of life are absolutely alike in all particulars.

Not only do all forms of life thus differ from one another, but also in the same individual there exists an ever-present tendency of the various structures to exhibit variations. Thus in man, for example, marked variations are frequently observed in such structures as the teeth, the fingers, the toes, and the liver; and, furthermore, it

necessarily follows that these variations must either be of benefit or of detriment to the individual possessing them.

A variation is favorable when it assists the individual to live and perform its various life functions more perfectly under those conditions or environment, in which it exists; and, on the other hand, an unfavorable variation is one which renders the individual less adapted to its environment.

In all close organic relationships there is a constant tendency of resemblance or persistence of type which is commonly expressed in the old familiar phrase of "like begets like."

The offspring resulting from sexual reproduction from a male and a female organism is considered to represent half of the nuclear material of each parent. In addition to those general and very clear resemblances which the offspring almost invariably show to the parent or parents, as the case may be, there is, quite frequently, present features or idiosyncrasies, as they are frequently termed, the relationship or significance of which are obscure. These variations are considered to result from the twofold origin of the offspring, and if they can be recognized in either parent their origin is clear; but, if they cannot be so traced, their origin is obscure. In many instances where a variation of type cannot be explained through parental relationship an investigation of more remote relationships, as the grand-parental, or even more remote ancestry, will show the presence of the characteristic to be explained, and when its presence is so found it is considered to be a reversion to an ancestral type or an atavism.

These atavisms may be normal in character, or, on the other hand, they may be pathological. The greater the distance it is necessary to go along the ancestral line to find the presence of any peculiarity we are endeavoring to explain the more difficult it becomes, and it is not at all strange that it is so when we consider the number of ancestors that become involved when genealogy is traced.

To illustrate, starting with the individual as representing the first generation, he represents, first, his parents, the second generation, remote 2; the third generation, remote 4; the fourth generation, remote 8; the fifth generation, remote 16; the sixth generation, remote 32; the seventh generation, remote 64, and so on, the number of individuals doubling with each generation. Considering that thirty years represents an average generation, this would require 210 years.

It cannot be doubted, although it does seem frequently remark-

able that it is sometimes necessary to trace back a considerable distance to find an explanation for some peculiarity, functional or structural, found in the individual.

By human environment we understand to be comprised those conditions under which mankind exists. The subject is a great one for many and diverse are the conditions under which the human species exist. In the frigid, the temperate and the torrid regions; in the forest and on the plains; in the depths of blackest savagery and in the highest of civilization mankind lives; and, to an extent, shapes the destiny of his successors.

The environment under which living things exist is not a stable one, but is continually changing. This being true, it follows that organic forms are thus constantly subjected to different conditions and it thus becomes necessary that they, according to circumstances, adapt themselves to this changing environment. If they are not able to so adapt themselves they are placed at an disadvantage in the struggle for life and extinction in the case of many of the lower animals has occurred in consequence thereof.

In the case of mankind in relation to this changing environment we see it illustrated with the change of seasons.

With the advent of winter in the temperate regions it becomes necessary for man to change those habits of living which he followed during the summer season. He wears different clothing; lives more indoors; eats different food, and in a variety of ways he lives in the winter a different life from that which he follows during the summer season. In so modifying his habits of life according to circumstances he is merely adapting himself to his new environment.

This principle of adaptation applies not merely to the individual, but also to the larger groups and races of mankind.

An illustration of this may be seen in the peoples inhabiting the region of the Caucasus Mountains. These mountains, stretching for a distance of about 750 miles between the Black Sea and the Caspian, instead of running in a general northern and southern direction, as the majority of great mountain chains do, their course is in a general direction east and west.

Their height varies greatly, ranging in places from 250 to 10,000 feet, and in numerous ways the topography is extremely variable and unique. The environment here furnished for mankind is, therefore, a very diverse one.

The peoples inhabiting the Caucasus region are considered to have come from about the same stock, but owing to the fact that the region in which they live presents such great physical diversities they, in adapting themselves to these varying and various conditions, have as a result developed among themselves many differences in their methods of life, their customs and their language.

Racial adaptation cannot be better illustrated than by considering how well the white race has adapted itself to the environment of America since the time of the discovery.

No better illustration of physiological and anatomical adaptation can be given than the description of John Hunter's experiment on the buck as narrated by the late Sir Wm. MacCormac in the Hunterian Oration of 1899: "He tells us that in July, 1785, he had a buck thrown and tied its carotid artery. Immediately the pulsation in the velvet ceased and the antler grew cold; but on returning a week or two later he found warmth restored and the antler growing. The buck was now killed and sent to Leicester Square, and upon examination Hunter found the ligated artery obliterated and the circulation carried on by other, generally small, vessels above and below the place of ligature, which had thus restored the blood current in the growing antler. Nevertheless, he felt uncertain whether the same result would occur in man, and in December, 1785, he carefully explained the alternatives to his first patient, a coachman, who was suffering from popliteal aneurism in St. George's Hospital. He told him of the usually fatal method of incision and evacuation of the sac, the better chance of life by amputation, but with loss of limb, and guided by his experience of the return of the circulation in the antler of the buck, he said he would try to save both his life and limb. The patient consented, and six weeks afterwards he left the hospital cured of the aneurism, although he died fifteen months afterwards from another malady." In this interesting narrative of wonderful, at the time, and valuable experiment, the blood supply to the antler was cut off. Nature, however, through the formation of the new small arteries established collateral circulation and thus resulted an adaptation to environment which saved the antler; and so, in many instances, the same principle may be illustrated.

The relationship existing between race, climate and disease is a subject which has not until very recently received that consideration which it deserves; now, however, the importance of the matter is

becoming more recognized by physicians in both Europe and America, as is shown by the organization of societies for the study of tropical diseases.

The effect of temperature on health seems to be the most important factor so far as climate is concerned. Most Europeans and white Americans from the temperate zone that go directly into the tropics are likely to suffer from anæmia, gastro-intestinal disorders, malaria, typhoid and yellow fevers. If the change of climate be made gradually the individual is more likely to be able to adapt himself to the new environment and thus less subject to these diseases.

It has been claimed that there is a relationship of mortality to the winds blowing from the north and east, and inverse relationship to those winds which come from the south and from the west.

A change of climate may affect some organs favorably and at the same time other organs detrimentally. For example, a climatic change may benefit a lung disease, but cause liver trouble. A dry tropical climate may be conducive to health in permitting outdoor life and exercise and thus promote certain factors that are conducive to health; but such environment is also favorable for the development of the lower forms of life, including, frequently, those micro-organisms which are productive of disease. It is alleged that in India during the hot, dry season, when small-pox is frequently extensive and severe, that vaccination is hardly safe, because of the great tendency of mixed infection occurring in connection with the vesicles resulting from the vaccination.

Another factor concerning the health of the individual which must be modified by climate is exercise. In general, it is recognized that extremes of temperature tend to produce indolence in the individual and that the greatest energy is usually shown by the inhabitants of the temperate regions. This, however, is dependent to a great extent upon race.

Many recognize the importance of exercise as being necessary for health, but comparatively few, even among medical men, have considered the full importance of the subject from the biological standpoint, which is, that the use of an organ or structure within reasonable limits tends to its development and perfection, and that conversely the disuse of an organ or structure tends to its atrophy and degeneration. Furthermore, if this disuse be continued indefinitely the structures involved may become useless or may even disappear:

and, in the case of some of the lower animals, the extinction of the form has resulted.

It is considered by biologists that the influences of environment affect structure through function and that structure is modified thereby. In the average man of the white race a number of illustrations of this factor can be seen. Take, for example, the foot. Owing to disuse the toes in civilized man have degenerated to such an extent that in the adult they have become almost functionless through our custom of wearing shoes. Among savage peoples, where shoes are not worn, this loss of function on the part of the toes is not observed. Among infants, likewise, of the white race, it is not present as a rule.

In the case of the hand, through use, the fingers have improved, as is seen in many occupations which require that they do the most delicate work.

The gastro-intestinal tract shows certain modifications which have accompanied our higher civilization, of both of which the end is probably not yet near, and which should be recognized. Through disuse the teeth of the white race are undergoing a degeneration which all interested in the human welfare, especially physicians, should recognize. In the different races of mankind the teeth present certain differences. Among the dark skinned races they being, as a rule, larger and stronger than among the white. Among the Australians, Milanesians and many of the African peoples the last molars, or "wisdom teeth," are well developed and have three separate fangs. Among the members of the white race these teeth, as a rule, have only two separate fangs and are, as a rule, almost functionless, being usually among the first to decay.

As the methods of food preparation in vogue among the higher grades of civilized members of the white race have thus resulted in causing disuse which has been productive of an actual change of structure so far as the teeth are concerned, so this change can and to an extent has shown that other portions of the gastro-intestinal canal have been affeced likewise, as shown by some investigations among the French, which show that a narrowing of the intestinal tract has resulted.

To the writer it seems that this, if nothing more, should show conclusively that mankind can never thrive as a species on concentrated foods, for the reason that concentrated foods would relieve the

system of certain work that it is supposed to do. This relief of function would be a disuse and this disuse would in time, although it might require many generations, be productive of such a degenerative change of structure as would jeopardize the existence of mankind.

In the transmission to offspring of those characteristics that have been developed and increased by use it seems that those which are unfavorable to the individual are more readily transmitted than those which are favorable. An unfavorable characteristic thus once established renders a predisposition to various other troubles.

With this predisposition, however, there is not the tendency for the pathological modification to be transmitted to the offspring in the same degree to which it is present in the parent, for the reason that there is ever present that tendency for a more perfect adapation to environment and also that with the pathological variation, as a rule, only one of the parents is affected.

In the case of disease, when it is acquired, it may exist temporarily or it may become permanent in the individual. The longer the duration of the disease and the more severe it is, and the more vital the parts involved, the greater becomes the probability of its producing permanent and hereditary effects; and, conversely, the shorter the duration of the disease the less its intensity and the less vital the structures involved; so do the probabilities of its transmission become correspondingly diminished.

The susceptibility which is frequently shown in certain individuals to certain diseases is also in some instances shown in races. Thus, in negroes there is a decided predisposition to lethargy. They also show a certain immunity to yellow fever, although not an absolute one.

Taking into consideration that many of the disease-producing germs are considered to be animals, although with many of the microscopic forms of life it is difficult and sometimes impossible to differentiate them, it becomes a matter of interest and frequently a matter of importance to know how the lower animals are affected by disease.

Those animals, except the lowest forms, which man generally comes in contact with, are the domestic ones. These latter, however, are brought more or less in contact with others, and it thus becomes of importance to know something of those diseases to which they are subject.

The variety, habits and environment of the lower animals, of course, varies very greatly and largely; because of this our knowledge of the zoological distribution of disease is at present very meagre.

Among the domestic animals it is possible to make fairly satisfactory observations; but among the wild animals it is very difficult. When a wild animal becomes seriously ill, or when it dies, it usually falls to the ground and immediately is likely to become the prey of others, in such instances, of course, rendering observations impossible.

A few of those diseases which are rare in man are considered to be common in the mammals. Dr. J. Bland Sutton considers that, with the exception of the acute exanthemata, most of the diseases which occur in the human species also exist in the mammals. In his work, entitled *Geographical and Historical Pathology*, Hirsch states that he considers that tuberculosis has held at all times among all civilized peoples in all parts of the world a foremost place. It is likewise generally considered that it is prevalent among nearly all of the higher of the lower animals, *i. e.*, for example, the vertebrates. It is at times very common among monkeys. Those birds which are grain-eating are considered prone to it, while those which eat flesh, as the birds of prey, which include eagles, hawks and owls, are considered less susceptible.

Anthrax can be given to the ox, sheep, rabbit and guinea pig by injecting into their circulation the blood from an animal suffering from splenic fever. Dogs and pigs, however, it is difficult to infect with this disease, and it is considered that birds are not susceptible to it. Pasteur considered that this immunity of birds to anthrax could be explained by the body temperature birds possess. The anthrax bacillus does not develop at a temperature of 110° Fahr. A fowl's temperature is about 103° Fahr. That of the horse is 98° Fahr., 37.7 centrigrade, and the dog and rabbit very slightly higher. By bathing the fowl in cold water of a temperature of 76° Fahr., thus lowering its body temperature, and then injecting it, it shortly died, and an examination of its blood is alleged to have revealed the bacteria of splenic fever. In another instance a hen was subjected to the cold water and injected as previously done, but in this instance when the fever was at its height the hen was wrapped in cotton wool and placed in an oven of a temperature of 95° Fahr.

Now animals having a low body temperature, as frogs, for ex-

ample, are generally immune to anthrax. If they are inoculated, however, and their temperature raised by warming gradually the water in which they are placed until the temperature is about 98° Fahr., they then die.

That some of the domestic animals, as the hog and the ox, are liable to contract trichinosis, tape worm and other infectious conditions is well known; but, relative to most of the other diseases of our domestic animals, we know little as to the relationships, if any, they bear to the diseases of mankind.

In examining a small piece of ham, Virchow detected, in the year 1866, some minute white concretions which at first he supposed to be trichinæ: but, on close examination, they exhibited a crystalline structure and responded to the test for quanin, which is a crystallline nitrogenous body resulting from the chemical changes occurring at times in animal tissues, and which was first discovered by Unger in Peruvian guano.

This quanin is very extensively distributed among animals. It has been found in fish, mollusks, frogs, lizards, horses and parrots.

From these instances mentioned it can be seen that disease quite generally prevails among the lower animals, and owing to the fact of the close association existing between many of the lower animals and mankind, all living in the same environment, it becomes a matter of importance that their diseases should be known.

REPORT OF THE

SECTION OF CLINICAL MEDICINE.

Symptom Chasing, by J. A. Bullard, M. D.
Arthritis Deformans, With Report of a Case, by G .M. Golden, M. D.
Pneumonia and Pleurisy in Childhood, by C. S. Raue, M. D.
The Diagnostic Value of the Normal Constituents of the Urine, by W. W. Seibert, M. D.
On the Frequency of Pulmonary Phthisis in Infancy and Childhood, by E. R. Snader, M. D.
The Nature of Disease, by Robert Walter, M. D.

SYMPTOM CHASING.

J. A. BULLARD, M. D., WILKESBARRE.

There is no study that will give a homœopathic doctor (that rare bird) such wholesome delight as that which results from the hunting down, cornering and bagging a "characteristic," well-groomed and authenticated, many-times proven drug symptom, and marrying it on the spot to some elusive, bashful, morbid, retiring disease symptom brought to our attention by some hopeless and forsaken somebody, who has been pronounced incurable and perhaps doomed to perish, with possibly the day and date fixed.

Speak of the joys of the hunter, sing if you will of the glories of automobiling or yachting. Pouf! there is nothing in any of them when put side by side with the exhilaration we "symptom chasers" experience after giving life and years of health to one of these poor unfortunates as a result of an hour or more spent chasing through the pages of a good Materia Medica, where by comparing drug and disease symptoms we have made such results possible.

What if our books are faulty and verbose: what if we do have to discard and ignore many things stated to be true, yet found to be wanting: what if we do get sidetracked almost hopelessly at times.

Start again! Keep up courage! the golden grain of fact is there for everyone who seeks earnestly for it; failure is often the mother of success, if we only keep doing and working; and we must never for one moment, if we wish to succeed, have the slightest doubt of the wisdom of Providence or the healing powers of Homœopathy.

Every successful practitioner of our school who has practiced for as many years as I have must, perforce, by this time either largely have made his own Materia Medica, or drifted so far away from his Alma Mater and her teachings as to have become an indeterminate and extremely yellow prescriber, who for commercial reasons only calls himself a Homœopath.

Now there is no excuse for this backsliding, except indolence or perhaps humility: indolence because he is too lazy to study, humility because our cures are so quietly beautiful that they are made without the flourish of banners and the blare of trumpets, and the maker consequently escapes the notoriety that the man of blood and bile has thrust upon him by an admiring populace, and you all know how extremely hard it is for some to exist without notoriety.

To those, however, who are disposed to criticise our Materia Medica I wish, while admitting its defects, to go upon record as saying and believing, that if there had not been a drug proven, nor a single addition made to this same old list of remedies of seventy years ago or more: if we had, I say, nothing but the polychrests and with no better knowledge of drugs than did the founders of our school, we would still by means of possession of these old-time, tried and partially proven drugs, be enabled to take a position second to none as a school fitted for the cure of disease.

I tell you, fellow doctors, I care not where you stand, the Homœopathy of Hahnemann stands today, and yesterday, and tomorrow as the foundation bed rock supporting the true temple of healing, and no matter how we squirm, no matter how we labor to manufacture strange gods, no matter how we hunt for other easier paths, seek short cuts across fields we were intended to go around, no matter what cunning tricks of surgery and necromancy of chemistry, and most wondrous theorizing we indulge in at times; notwithstanding all this, I say, if we have practiced enough Homœopathy to get a realizing sense of what it really means, we will yet find ourselves harking back to the old bed rock, Homœopathy, that rock of ages, immortalized by Samuel Hahnemann; that rock whose every

cleft is a polychrest, whose every polychrest is a life saver, and every life saver a glorious advertisement to the honor of our school of medicine.

Only "follow the flag" and live up to the spirit of strict individualization and study your Materia Medica.

In this latter day of Homœopathy, and especially among the graduates of recent years, there is, I regret to notice, a growing tendency to ridicule the men of our school of medicine who study and strive to prescribe according to the more strict homœopathic law.

They sneer sarcastically at what they are pleased to designate "symptom chasing," and regard "keynotes" and "characteristics" as something decidedly unnecessary to the making of a successful prescription.

Now, as a matter of fact, all symptoms we can elicit, subjective or objective, in a given case should be, and, I may say, are, the only correct guide in deciding upon the homœopathic remedy, and the "characteristic" or "peculiar" symptoms are the "keynotes" to the complete harmony of the remedy and the patient, and without this harmony we have not made a homœopathic prescription.

If, however, we can find this harmonious comparison in its fullness, a single dose of the thus selected remedy given preferably in high potency will cure our patient.

Some one has said, and I believe truly, that there is one or more "characteristic" or peculiar feature belonging to every one of our seventy millions of people which is for each one a distinguishing mark from all the other sixty-nine millions nine hundred and ninety-nine thousand nine hundred and ninety-nine. Now as not one of these millions can be ignored, nor will any one of them be complete without his or her "characteristics" or peculiar symptoms, so it is with the medicinal substances composing our Materia Medica; not one drug symptom can be dispensed with, nor can any one of their "characteristics' be laid aside as worthless, in justice to the patient or the remedy.

The symptoms common to a given disease and which are necessary in order to determine its name so as to make a correct diagnosis, are of much less importance in deciding the choice of a medicine for the cure of said disease than are the symptoms which are peculiar to that particular patient who has it.

Take a case illustrative of what I claim in the first part of this

hurriedly written, but no less authentic paper, in favor of "symptom chasing."

In the early days of September, 1903, there came to me a man aged thirty, thin and evidently poorly nourished, health fairly good for years until recently. Bad family history, including cancer and consumption, a man of active habits, is a user of both coffee and tobacco, has been addicted to the use of laxatives for as long as he can recollect, is temperate so far as intoxicants are concerned.

His present history is that of more or less pain and soreness in rectum for months, pain being smarting and burning in character, and would occasionally have passages containing gobs of jelly-like mucus; was suddenly attacked by severe pain in rectum, so severe, in fact, as to compel him to sit down when it came on, no matter where he happened to be; he had little control over the sphincter at these times, so little that when a strong desire would be felt for stool he sometimes soiled himself before he could reach a water closet.

Examination through an extremely irritable and painful muscle disclosed, among other things, a rectal ulcer and a fissure, the lower portion of which extended so low that it could be distinguished when the nates were well separated.

On questioning him carefully I learned that he lived mostly upon meat, of which he was very fond; that he had excessive dryness of the scalp and skin generally; that his appetite was very poor for breakfast, and he frequently went without; that he was obliged to pass water very often, and at times it was difficult to retain; that these symptoms were always worse during the forepart of the night, but he was with all a sound sleeper; he had dark circles under the eyes and he complained of feeling bruised.

Now here was surely a case calling for surgical treatment, but much more loudly it called for a remedy that was pictured in letters a foot long over his poor, emaciated body. How it came to me, these peculiar "characteristic" symptoms; the striking and somewhat uncommon symptoms, the "keynote" symptoms; and what did they call for? why Aloe, and he received one dose of Aloe c.c. on his dirty tongue and two weeks' placebo. Improvement was almost immediate and continued without interruption until the latter part of February, when there seemed to be somewhat of a standstill. I then gave him one dose of Aloe 8m with blank tablets to follow, and on the first of the present month he reports and declares himself entirely well and, weighed by my office scales, is twenty-two pounds heavier

than when he began treatment. An examination shows to all appearances a perfectly healthy rectum.

Just one more case of recent interest, a woman aged eighty-four, had always been well, was taken with la grippe, which ran its usual course, the patient responding beautifully to Allium cepa and Bryonia. After the acute symptoms had left her, however, there developed a weakness and debility to which she had ever before been a stranger—a debility apparently due entirely to weak heart, its action being very slow and labored. As I was seeing other patients in the same house I contented myself by thinking that in so aged a person a prescription on general principles was all that was necessary, so for this cardiac weakness, which, by the way, was most marked in the early morning, I prescribed Nux vom, tincture, two drop doses before meals in a little water. To my surprise there was no improvement whatever, and if anything the patient grew more and more debilitated and discouraged.

On being asked if something more could not be done to relieve her, I took the case more carefully in hand, as, indeed, I should have done in the initial prescription, and after a little "Symptom Chasing" I learned that there was a tough, stringy, ropy mucus accumulation in head and throat which necessitated a very hard, tiresome cleaning out every morning.

The patient described this discharge as "strings that were very hard to get out." Now here was a key-note symptom, and I at once recalled that, in addition to this, the morning weakness and aggravation, the fugitive bone pains, the vertigo, the orbital neuralgia, the feeling of coldness about the heart, were all more strongly indicative of Kali bich., than they were of Nux vomica, and as a matter of fact Kali bich. 6x cured the case.

Now as a little recapitulation, here are the symptoms as elicited at the second examination of the patient in question. Woman, age eighty-four, previous history one of "always good health," had never been ill until the attack of La Grippe; since recovering from this attack had felt weak and weary; short of breath; frequent attacks of vertigo; much worse in the morning, unrefreshed; felt at times as though would lose consciousness; bad taste in mouth and an indifferent appetite; accumulation of ropy, tenacious, yellow mucus in post nasal passages and larynx, worse in morning, but occasionally throughout the day, at other times throat dry and uncomfort-

able; fugitive rheumatic pains about the body, especially in the lower limbs; some orbital neuralgia; at times sensation of coldness about the chest and heart; listless and low spirited.

Now here, gentlemen, was a case where Nux vomica tincture should have at least accomplished something, some beneficial action, even if no more than that of a tonic or stimulant; but it did not, the patient might as well have taken water, or what our allopathic friends kindly designate "sugar and water."

Kali bich., on the other hand, covering as it did a greater number of the symptoms and being especially indicated by that "keynote" symptom, "long, ropy, stringy, tough, yellow mucus," and what is I think of nearly or quite as much importance, the mental picture, and having so many symptoms in common, Kali bich. was the one medicine Homœopathic to the condition presenting; and it cured the patient.

In my own personal opinion I believe that this remedy in a much higher potency and a single dose would have accomplished an equally good result. Other cases could be reported even more illustrative of the wonderful power of the indicated remedy; one of exophthalmic goitre being especially instructive and interesting, but too lengthy. I will simply say that the case had reached a most deplorable condition, and in twelve months' time with no remedy save Graphites from 30th to the 8m. is nearly well and will surely be restored to perfect health. Numerous cases of malignant disease in advanced stages, tubercular cases in which all indications pointed to a fatal issue, have been arrested and the patients are now well and following their several occupations.

Why do you doubt? surely it is worth a trial. Think what a victory it is to rout that king of terrors, death! Try it, fellow doctors, when next called to a case called incurable: you have nothing to lose and everything to gain by trying my method, and I most gladly give it you; this is the formula:

First, no matter what odds you are up against, never admit that you are beaten until the battle is fought, for you will all admit that a soldier can never do his best if he counts himself beaten before firing his gun.

Second, study your field of action, and select your ammunition with the greatest of care and especially as to potency, for if you

attempt to kill microbes with a sixteen-inch gun remember you will be hurting the patient more than you will the disease.

Third, don't shoot too often, and don't shoot at all until you are sure you see the mark, and that your ammunition corresponds to what you are aiming at.

Fourth, give plenty of Sac. lac., for to keep up the courage of the patient it has no equal, and frequently minds must be reassured and something done in such cases. That is all there is of it, just be sure you are right and go ahead; and one of these days, when success has made you just a little proud and you sit down in your office some evening, tired and weary, and begin to wonder what you were made for anyway, the thought of how the one hundred millionth part of a grain of Lyc. and a pound of sugar of milk gave Mr. Smith back to his wife and children for an indeterminate number of years, will rest and comfort you until you forget all about your fatigue and annoyances, real and imaginary, and if you are at all inclined that way you will find yourself giving silent thanks to your Father in Heaven that he gave the world his only Son and Samuel Hahnemann and Homœopathy.

I have no apology to offer for presenting this paper, poor as it is, for in it I have called your attention to the fact that the homœopathic application of the indicated remedy will cure diseased conditions, for to be very honest, I fear some of us have forgotten it.

Also, to be a successful homœopath, one must be more or less of a "symptom chaser," and the greater the success the greater the chaser; nor must we be satisfied with mere chasing, but we must run them down and catch them.

Knife grinders, skin puncturers, drug pushers and blood-letters may all have their place in the economy of Nature, but the more I see of the dead-in-earnest "symptom chaser" the greater confidence I have regarding the future stability of our homœopathic institutions.

You who are still young and ambitious to succeed are indeed to be envied; inasmuch as you still are filled with youth and vigor, which affords opportunity to make good. While to us of the bald and gray our "symptom chasing" days are nearly over, only a little while longer at best, and then it will devolve on those who come after to uphold Homœopathy as a distinctively superior school of medicine.

And now, as a parting shot, let me ask of every doctor present that you one and all will get away from the fallacious notion that in order to succeed you must have strong medicine.

ARTHRITIS DEFORMANS—WITH REPORT OF A CASE.

G. M. GOLDEN, M. D., PHILADELPHIA.

It is not the object of this paper to give a detailed account of the disease, but to call to your attention the need of a more thorough study of this most prevalent affection. It is true that its occurrence is more frequent than is generally recognized—affecting the old and young, making their lives a burden to themselves.

This most formidable condition dates back to antiquity. Its distinctive features as compared to other rheumatic conditions were not pointed out until done so by Herbeden in 1804, and later by Haygarth. Notwithstanding this fact, it was classed by the later writers with gout and rheumatism, and at the present day is looked upon by many of the profession as a rheumatic condition.

I feel that we are too ready to class our joint affections as rheumatism, especially the various arthritic conditions in their earlier stages. By many rheumatism is regarded as arthritis and arthritis as rheumatism. As a matter of fact, a large number of the cases diagnosed as rheumatism are not rheumatism, but arthritic manifestations of another disease. If we will think for a moment the term arthritis is a condition only and not a disease. I could probably summarize a dozen different forms of arthritis, each having a different etiological basis. Then why do we persist in narrowing our classifications to gout and rheumatism, acute and chronic, when in reality they are distinct and independent conditions of their own, having little relation one to the other, and forming but two of the various forms of arthritis?

The terms rheumatism and rheumatoid have been greatly abused and confused with many other conditions; too often acting as a hood when we are not cognizant of the condition at hand. So let us in the future endeavor to obtain a little order out of chaos, attempt to individualize and classify our conditions, so that a more thorough understanding may be had of them.

Permit me at this point, before entering upon a discussion of the disease we are about to consider, to report a rather typical case of arthritis deformans of the polyarticular variety:

Mr. N., aged 26, married, insurance collector by occupation, came

to Halmemann Hospital and Dispensary complaining of pain, stiffness and swelling of joints, involving fingers, wrists, elbows and knees.

Family history: Mother living and well; 51 years. Father dead; result of strangulated hernia; two brothers and one sister living and well; one brother and one sister died during infancy, causes unknown. No history of rheumatism or conditions simulating it in the family; no Bright's disease or syphilis. His mother's brother died of tuberculosis, assumed to be due to exposure.

Personal history: Says he was always a delicate child from three months of age; subject to colds and digestive disturbances; when two years of age had scarlet fever, fully recovered; at six years had measles. Dates his present condition from the blizzard of March, 1888, at which time he was nine years of age. One week later, as the result of exposure and severe wetting, developed what was supposed to be a rheumatic condition, involving fingers, wrists and ankles —characterized by pain, swelling, tenderness and stiffness, with slight redness; said he had little fever and was not confined to bed. This condition lasted for nearly one year, when he improved and had only slight exacerbations during the next four years, after which he was perfectly free from symptoms, with no apparent joint changes, during the following nine years. He was then employed where his work caused him to be in constant dampness, which was quickly followed by arthritic manifestations, involving the wrists, ankles, first and second fingers of left hand; present attack lasted about nine months, and left permanent changes in the affected joints. In July, 1903, had small-pox; after his recovery was free from symptoms, with the exception of the joint changes. This was followed one month later by an apparent acute attack of arthritis, with rapid involvement of all phalangeal joints of both hands, this condition persisting until the present time, with only occasional amelioration of symptoms.

Status Praesens: Pain, swelling and tenderness, with partial ankylosis of affected joints; slight or no redness; anæmia rather marked; appetite good; bowels regular, with few or no general symptoms. Reflexes slightly exaggerated.

Physical examination: Heart slightly enlarged to left of nipple and one inch to right of sternum; heart acting forcibly, valvular elements well marked and muscular tone good. A systolic murmur is heard at lower end of the ensiform cartilage, rather harsh in character and transmitted over a considerable area, but most markedly

to the right; no pulsation of liver or jugular veins obtainable. It seems undoubtedly a tricuspid regurgitation, but its causative factor is a question. Pulse 88, temperature 99.2°. Blood, hemaglobin 75 per cent., and showing practically normal count; red corpuscles 4,980,000, white 6,800; differential count. Lymphocytes 20 per cent.; large mononuclear, 4 per cent.; polymorphonuclear, 74 per cent.; eosinophiles, 1.5 per cent.; mast cells, .05 per cent.

Urine, 3 pints 24 hours, clear, acid, amber in color; sp. gr., 1,010; alb. and sug. neg.; urea 390 grains. Earthy phosphates normal. Microscope revealed only a few amorphous urates. No casts.

The physical changes were characteristic, showing the enlarged joints, which was made more apparent by the atrophic condition of the muscles that was most manifest in the hands, also in the wrists ankles and elbows. These conditions are probably best shown by the accompanying radiographs and photographs. No pigmentation of the skin, enlargement of the spleen or glandular involvement.

This was a case that might have been confounded with acute articular rheumatism, acute gout, gonorrhœal arthritis and acute polyarthritis from other causes, for example, septic conditions, etc.

Let us recall the fact that a diagnosis depends upon a knowledge that arthritis deformans often occurs as an acute polyarthritis, and is not to be mistaken for acute articular rheumatism. We will exclude each condition in turn and consider, first:

Acute Articular Rheumatism—Polyarthritis deformans does not migrate from joint to joint; leaves the joint in a disabled condition. Arthritic symptoms do not clear up suddenly and the marked tenderness and redness of rheumatism not present. Pain is marked in contrast to the amount of joint involvement. Involvement of certain joints as temporo-maxillary and cervical, not so in rheumatism. Curious appearance of finger—temperature not high and rapid pulse—which persists after the attack has subsided. These two conditions are very suggestive diagnostic signs. Early atrophy of muscles. Exaggerated reflexes.

Gout—With this it is not likely to be confounded, with its alcoholic history, repeated attacks clearing up suddenly, leaving joint undamaged, and the uric acid estimation.

Gonorrhœal Arthritis—This may give difficulty, usually involves but one joint, history of infection and a thorough search for the gonococci will reveal the diagnosis.

From the other forms of arthritis there should be very little trouble in distinguishing it, and time will not permit a discussion of that subject. Taking into consideration the symptoms of our case reported, I feel that a diagnosis of arthritis deformans was perfectly justifiable upon the following points: (1) History of acute infectious disease. (2) Constant involvement of the same joints by repeated attacks, leaving permanent joint changes, with no tendency to clear up suddenly. (3) Arthritic symptoms not markedly acute, with the exception of pain. (4) Fever not marked during the attack and persistence of rapid pulse, with slight elevation of temperature, after subsidence of the attack. (5) Atrophic condition of the muscles (6) Exaggerated reflexes. (7) Radiographic findings, showing characteristic joint changes.

Of the early diagnosis of the disease, which is all important, probably Dr. Spender has given us the best writings upon the subject. He calls attention to the (1) Rapid heart action and increased arterial tension. (2) Appearance of bronzed and discolored patches on the skin. (3) Coldness and sweating of the hands with atrophic conditions of the skin. (4) Curious neuralgic pains in certain joints. (5) Weakness of wrists and hands.

In considering the etiological factors concerned in this condition, the idea that arthritis deformans is in any way related to gout or rheumatism has been abandoned and the latter are regarded as distinct diseases. The condition may occur in those who give a family history of gout. This is shown by Garrod's statistics of 500 cases, in which a third gave a family history of gout and only 13 per cent. of rheumatism.

The condition may attack any age of life, but is most frequent in those between 30 and 50 years of age; its frequency rapidly declining after that period. It has been noted as early as the fourth year, known as Still's disease. It is generally said to be more frequent in females, but the later statistics show the proportion of the sexes to be nearly equal. One peculiar fact is the comparative immunity of the colored race to this affection.

Heredity plays a doubtful part in the etiology, possibly because of the difficulty in obtaining a definite arthritic history in a family. Those with a tubercular history have frequently been referred to as susceptible. Influenza and other acute infections seem to exert an influence at times. Exposure to cold, wet and damp, errors in diet,

worry, care, mental and nervous depression and local injuries are all regarded as possible exciting causes.

There are two principal theories as regards the etiology. First, that the disease is of nervous origin, and, second, that it is a chronic infection. Both have their advocates, some believing in the nervous origin, but current opinion at the present time inclines strongly to the infective origin, as based upon the following facts: (1) The investigations of Schiller, Barnatyne and others, who found the presence of micro-organisms in the fluids and tissues of the joints. Cultures were made from these and injected into rabbits, which set up an arthritis with changes identical with those of arthritis deformans. (2) Its acute onset in over 50 per cent. of cases, and tendency to acute exacerbations when in a chronic stage. (3) Tendency to persistence of rapid pulse and slight rise of temperature. (4) Its frequency following the acute infections, as gonorrhœa, influenza, sepsis or an acute exanthem. (5) Enlargement of the spleen and involvement of lymph glands. Others have suggested its being the result of faulty metabolism, as shown by diminution of the lime salts, earthy phosphates and uric acid, without disturbance of the normal relationship between uric acid and the alloxan bases; but these changes are no doubt the result of toxæmia, and not primary in themselves. It has also been suggested that the process is one of senility, especially in those of the chronic form.

Although the infective origin is not fully established, it is sufficient to show the direction of medical thought, and a searching investigation of this disease is needed, to put at rest the minds of the profession as regards its exact nature.

In scanning the pathology we have little that is accurate. Concerning the early changes, we cannot discuss it from a pathological viewpoint, when our etiology is obscure, but must rest satisfied with a knowledge of the morbid changes that take place later. The joints differ greatly from those of gout, in the absence of uratic deposits, and from rheumatism in the presence of extensive structural changes, especially of the cartilages.

The pathological process involves primarily the cartilages, synovial membranes and bones. There is a proliferation of the cartilage cells covering the ends of the bones, the cartilage becomes fibrillated as the result of proliferated cells being thrown or pushed out on the free surface of the cartilage, giving it a velvety feel. The car-

tilage becomes soft and porous, so that it either is absorbed or worn off by the contact of the ends of the bones, leaving the latter hard, bare, smooth and eburnated. At the margins or lateral regions, as the result of lack of pressure, the proliferated cartilage develops into irregular nodules, which ossify and form osteophytes, completely locking the joint at times. Simultaneously with the cartilage changes the synovial membrane undergoes a proliferation and a throwing out of an exudate which either becomes organized or ossified (the latter condition being rare), or it may be absorbed. The bone changes are those of a rarifying osteitis, resulting in an osteoporosis. McCrea has pointed out this form as the "osteo-arthritic," with a second classification of the "rheumatoid." In this we have the involvement of the ligaments and fibrous structures about the joint, they becoming markedly thickened and leading to an ankylosis. It must be remembered that this ankylosis is not due to adhesions, but to the osteophytes, enlarged ends of bone and thickened ligaments. These anatomical changes may lead to great deformity, resulting in a dislocation, partial or complete. The muscles undergo atrophy and this may become extreme at times. Neuritis has also been noticed.

For a clinical classification I will use that of McCrea, dividing the cases into:

(1) Herbeden's Nodes.
(2) Polyarticular form.
(3) Monoarticular form.
(4) Spondylitis.

(1) *Herbeden's Nodes.* Of these we have little accurate knowledge. In this form the fingers become affected by the formation of small, hard growths on the dorsal surface of the distal phalanges. These are not gouty in nature, showing no urate of soda. They cause very little trouble unless irritated by injury and show no tendency to involve the larger joints, and are rarely associated with the more severe forms of the disease. According to McCrea's statistics they appeared 11 times in a series of 94 cases of the polyarticular variety.

(2) *Polyarticular Form.* This class will comprise the majority of cases. There are two modes of onset, sudden and gradual. This statement may seem strange, as the majority of descriptions tend to make one believe that it is always gradual in onset; but in a study of 110 cases by McCrea, 50 per cent. showed a sudden onset. Considering the clinical course of the disease, it may be divided into three

classes. The first of these is the slow, progressive type, in which, after either an acute or gradual onset, the symptoms slowly advance, joint after joint being involved. In sharp distinction comes the second class, in which the attacks are acute and very commonly come on at intervals, and at irregular times perhaps for many years. The patient may be practically free from symptoms, although at length permanent damage is done. The third class shows features of both, namely, that they have acute attacks, but with these there is a steady progress, a certain amount of damage being left each time. Of the symptoms, the joint changes are the most prominent. They are polyarthritic, with swelling and tenderness, which is not usually marked; pain severe at times, with little heat or redness. It shows no tendency to migrate from joint to joint or clear up suddenly and appear in others; when a joint is once affected it remains so until the acute attack has run its course, leaving the joint somewhat disabled. The disease may here take on the slow, progressive type, involving joint after joint, with some amelioration of the condition at times, ending in marked deformity, thickening and ankylosis. As regards the symptomatology in detail I need not speak.

The elevation of temperature is very moderate, ranging from 99° to 101° Fahr., and some show practically normal temperatures. The puse is accelerated, 90 or more, and rather out of proportion to the temperature. These two points are to be remembered in making a diagnosis. Associated with these symptoms there may be general malaise, anorexia, headache and apparent anæmia. As a matter of fact, a number of these patients are not confined to bed. There is little or no tendency to cardiac involvement. The urine shows little that is abnormal—albumin may be present, but in small quantities and usually in aged subjects. Casts have been noted, as also diminution of certain salts, namely, lime, magnesium and the phosphates, and also uric acid. The joints affected may be symmetrical or not, this condition varying. The knees are probably most often affected and next in frequency come fingers, hands, wrists and elbows. Others not so frequently involved are the shoulders, sterno-clavicular, temporo-maxillary and cervical, the last two named being very suggestive of an arthritis deformans. The blood shows no change, except a diminution of hemaglobin, which is not always constant. Probably not sufficient research has been made along these lines to warrant any positive conclusions. Of McCrea's cases, 33 showed blood examina-

tion with average hemaglobin of 70.6 per cent. Red cells, 4,468,000. Leucocytes, 7,000. A differential count of 8 cases showed normal findings. Cabot reports five cases, the only change being a diminution of hemaglobin in two of them. Of the remaining symptoms, such as enlarged spleen, glandular involvement, pigmentation of skin, condition of reflexes, etc., time will not permit discussion.

(3) *Monoarticular Form.* This is not as frequently seen as supposed, and often mistaken for what is known as chronic rheumatism It is seen particularly in the knee, shoulder and hip, in the latter location often called morbus coxæ senilis. It occurs mostly in advanced age and in males. The symptoms usually show pain on motion; distinct limitation of movement; muscular wasting, and at times crepitus. In this class a thorough examination should be made for changes in other joints, which may be slight. The condition may frequently be confounded with a gonorrhœal arthritis or tubercular joint.

(4) *Spondylitis, or the Spinal variety.* Two forms are recognized, one with general, the other with local involvement. These cases are usually of the "Osteoarthritic type." It is a form more frequently in males, from 30 to 50, and usually of gradual onset. The general features of these cases are as follows: The spine is fixed, and back rigid, giving the term of "poker back." Rotation is diminished or lost, and when the patient turns his head, he turns the whole body. There is much difficulty in stooping and the natural curves of the spine are lost. Of the local involvement the symptoms are not so marked. The patient may complain only of some stiffness or tenderness in the dorsal or lumbar regions, or pain in limbs, resembling sciatica, pains in chest, or lumbar region. In some cases the pain is referred to the hip, and may stimulate tuberculous hip disease, and lastly, but of marked importance, limited motion of the spine in different directions—emaciation, especially of the muscles of the back and buttocks. The reflexes are usually increased. Temperature shows slight elevation and acceleration of pulse is not marked. The blood findings are negative.

The morbid changes are as follows: Proliferation of the articular cartilages, with ossification, and formation of new bone, which replaces the interarticular cartilage, glueing the vertebræ together. This may be absorbed, and to the lack of intervertebral cartilage may result curvature. With these changes other structures may become involved, namely, the ligaments and fibrous tissue. The con-

dition is usually unilateral in the beginning, later becoming bilateral, and tends to involve the spinous processes and costal cartilages producing ankylosis.

The symptoms complained of most frequently are, pain, stiffness, interference with motion and emaciation. We are apt to be too hasty in classifying our cases of pain in the back as lumbago, pains in the limbs as sciatica, and chest pains as intercostal myalgia or neuralgia. A more careful examination may reveal wasting of muscles, some slight curvature, or projection of the spine and an attitude favoring one side. These are suggestive. The mobility of the spine is our most important diagnostic feature. Bending forward, backward, or from side to side, may show limited motion, this being readily recognized. These limitations may be equal in all directions, or only in one or more. Attempts at bending may cause pain.

There are two other methods for differentiation at our command—the injection of tuberculin and the radiograph. The latter shows characteristic changes. One other help remains, the plaster jacket If the case is one of spondylitis there should be improvement in a few days.

There is one other form of this malady which is manifested in children, and known as Still's disease. From its clinical picture it may be rightly classed with Arthritis Deformans. Of its prominent features, there are three: (1) Arthritic changes of many joints, similar to those of arthritis deformans, with special tendency to periarticular involvement. (2) Enlargement of spleen. (3) Extreme enlargement of lymph glands. It is usually seen before the second dentition, more frequently in girls. As to its causative factor, we are uncertain. It has been attributed to Tuberculosis and found in conjunction with Rickets, but considering its manifestations and course, there is no doubt but that it is of a purely infective origin.

The prognosis of this condition should be based upon a consideration of the disease as a whole. It is incurable and the outlook gloomy. The general tendency of these cases is to steadily grow worse, the progress usually becoming slower as the patient reaches advanced years and the symptoms less marked. All that we can expect to do is to give relief during the acute exacerbations; for those which we do see are too often late manifestations, and the best we can hope for is to maintain the disease at a stationary point by care

and perseverance. We might look for some better results, if we learn to diagnose our cases early. The prognosis must always be a guarded one.

Treatment.—The results of treatment vary greatly in the individual cases. No matter what course is adopted it seems to have little or no apparent influence on the condition. There are a few cases in which some brilliant results are obtained even after considerable mischief has been done. Considering everything however, treatment is far from satisfactory no matter what method is used. Remedies seem to have little or no influence upon the condition, whether treated by Homœopathy, Allopathy, or whatever school. This at most has been my experience and I think that of many others. There are three rules laid down by Garrod, which should serve as the basis of all treatments: (1) The treatment should be commenced as soon as possible after the appearance of the earliest signs of the disease (hence the importance of an early recognition of the condition). (2) It must be such as to maintain and increase the patient's strength, and all measures which have an opposite tendency should be avoided. (3) To be effectual it msut be steadily continued over a period of months, or even with short intermissions for a year or two.

Diet and Hygiene play a most important part. It is a mistake to restrict the patient's diet, and this point cannot be too strongly impressed. Improvement cannot occur without it. There is in Arthitis Deformans loss of weight, muscular atrophy and anaemia; to counteract these, food consumption is the best means. The diet should be mixed, liberal and varied; daily use of meat, fowl, game, fish, eggs and vegetables. Free use of milk and water, and the use of alcoholic beverages cautiously.

Atmospheric changes and exposure are to be avoided, light woolen clothing adapted to the season of the year should be worn. Plenty of fresh air. A change of climate is always most desirable, one which is warm, dry and with no sudden fluctuations of temperature.

Baths have had their advocates, but little result has come from them. Electric light baths, hot sand baths, mud baths, hot and cold baths have been recommended. Other procedures are those of massage, electricity (galvanic, faradic and static), hot air treatment, both general and local, and Roentgen Rays.

Another important feature is exercise. This should be impressed upon the patient; for rest is prejudicial to his recovery. Patients

must be encouraged to help themselves; although this may cause some pain at first. The exercise should be daily, walking, riding, household duties, or light dumb bells with calisthenics.

Local treatment is of little avail, even when applied for relief of pain.

The treatment by drugs is varied and I can say little as to results. The usual rheumatic remedies are nearly useless, and give little or no relief. For the acute manifestation Colchicine will probably give the best results. Several remedies with which I have seen personal results are those of Calcarea Carbonica, Iodide of Arsenic, given over a prolonged period, and Guaiacum. Among other remedies lauded are Benzoic Acid, Actea Racemosa, Actea Spicata, Pulsatilla, Sabina, Ledum, and Ferrum Phos., but of these I cannot speak from experience. (In the treatment by the old school they rely almost wholly upon the Iodides, especially Iodide of Iron, and Arsenic, combined with Cod Liver Oil.)

In the spinal form, the foregoing measures are to be rigidly adopted, being supplemented with a light jacket of some character.

DISCUSSION.

Dr. Chandler Weaver: I have had one of these cases under observation for four or five years, and would like to ask one question of you scientists, have you examined the temperature range? It has been remarkable to me to find in my patients anything regular in their temperature. It very often is sub-normal, with probably a rise in the afternoon. Outside of this bone condition, she enjoys fair health. I saw it coming in her fingers four or five years ago. I would like to know about that temeprature range, whether that is really an idiosynerasy with her or whether it belongs to the disease. My attention was called to the decided condition about last August a year. She was at Asbury Park at the time. I have had her changing about, trying to get renewed blood. She was at Asbury Park, and while standing on the street she slipped and nearly fell. She came to me in bad shape, and I thought I was never going to get her up again. If it had continued any time she would have been walking on her limbs in place of her feet. I started them back, put an arch under her, and kept them back and with the influence of silicia I have got her feet firm under

her, so that she now can walk, but the peculiar thing that bothered me was whether the temperature was caused by the blood condition, or whether something else would develop after a while. Calcarea and Silica have done a great deal for her.

Dr. W. G. Dietz: I would like to know how to look upon a case in which there was an interval of nine years from the first manifestation of the so-called rheumatic symptoms which appeared at the age of four or six years, then an entirely free interval of nine years, when another set of symptoms occurred. All the cases of arthritis deformans I have seen have been in adults with a pronounced neurotic temperament, and I have not had a case from the beginning nor have I seen the conclusion of one. They generally are a class of patients who change around from one physician to another, because they think they are not helped rapidly enough. So far as the history of the case is concerned from the very beginning there has been a decline in the severity of the symptoms, but never entire freedom from symptoms. While there have been intervals of months and perhaps years of comparative freedom from severe suffering, they have never entirely disappeared. I merely ask for information as to whether the first attack was really an initial attack of arthritis deformans.

Dr. Robert Walter: I have had several cases of this kind to treat. I have in mind one patient who has come to my institution every year for a number of years. This year she was not there because she could not get a room, but usually for years she has been there, with her hand very much deformed and presenting this condition as we usually find it, but for the five or six years in which she has been coming to use she has grown no worse and there has been some improvement in her general condition. I have no doubt that the reason why the case Dr. Dietz cites continued for nine years without any severe attacks was because her general health was maintained in good condition, but under unfavorable conditions, very likely of overwork, unhealthful habits of living, or depreciated vitality from any cause, the attack comes as a result of conditions which grew upon her perhaps for months or possibly for years. In all these cases the best cure for arthritis deformans, or any other disease, is good general health. The way to obtain good health is to live healthfully, and healthful living means hygienic personal habits just as certainly as hygienic public habits, and I really do believe if our society would devote a little time to the consideration and the practical application

of personal hygiene, and will give a good example to our patients in these respects, that we might be able to manage a good many cases we fail to manage now. Good health means abundance of what Samuel Hahnemann called the immaterial vital principle. The doctrines of Herbert Spencer within the last 40 years have perverted human thought to a very large extent trying to make out that this vital principle comes to a man through the food he eats or the air he breathes. There never was a grander absurdity. Samuel Hahnemann was correct. It is an immaterial vital principle. It comes from the immaterial world. You are dependent upon the great first cause for all the life you have, and for every breath you breathe. I believe that to be a fundamental truth to Homœopathy and to all science, that he gives to all life and breath to all things, and you have never drawn one iota of life out of any food you have eaten, or any air you have breathed, or anything you have drunk. You cannot supply the power of life to a human being, but you can waste it. You can expend it excessively and unduly day by day, and so keep yourselves depleted continually. Your patients can do that, and you may give them medicine until the end of time, and if the vital principle is not there to respond your medicines will be utterly useless. One of the reasons why we fail in getting responses to the use of medicine is because the patient has not the power to respond. If you can by any means succeed in accumulating or recuperating in that patient the power of life in abundant degree he will respond with a certainty that will be surprising. That has been my experience for many years, and I commend it to you as the necessary means of the restoration of health to human beings, to accumulate vital power. Thiry years ago I was laughed at for suggesting that vitality could be accumulated.

Dr. G. M. Golden: In regard to the doctor's question concerning temperature, I feel he misunderstood me in that point. I did not mean to say it occurred in every case, but it was simply suggestive that in the report of 110 cases this condition occurred in about 70 per cent. The condition may have been due to anæmic conditions. He states the patient was stout, flabby, and had no power of reaction. Frequently cases of that character are subnormal in the morning with a slight rise in the evening. I would be rather suspicious of some tubercular condition existing. In regard to the question whether the second attack was an outbreak of arthritis deformans, later on in the paper I gave a clinical classification of them. There are three classes. The general trend of opinion is that arthritis de-

formans is of slow or gradual onset, but from recent investigation this is found not to be true. In 110 cases over 50 per cent. of them had an acute onset. There are three clinical phases of the disease: first, with acute onset, and from that on a gradual progress of the disease, taking on a chronic condition. Secondly, cases with marked remissions, where there are repeated attacks of acute arthritis. Probably after one or two attacks the condition shows joint changes. I believe if we could get these patients early enough and watch closely we could probably find manifestations of joint changes. This holds especially good in the chronic form where it involves but one joint. The paper was simply an outline of the latest researches on arthritis deformans. As regards the treatment, the doctor spoke of Calcarea. I have had results of that personally in my own cases. Another remedy is Iodide of arsenic given through long periods. The doctor spoke of the nutrition of these patients. It is a mistake to cut down their diet. What they need is hyper-nutrition. Dr. Walters spoke of an attack waiting nine years. Probably that patient's general condition was well kept up. The minute nutrition gets below flood tide the disease is liable to manifest itself. Two points must be persisted in, patience and perseverance upon the part of the patient and upon the part of the attending physician. It is not a disease that gets well over night. It is a condition which has a long period of slow convalescence, never returning to normal, and the outlook is of a gloomy character.

PNEUMONIA AND PLEURISY IN CHILDHOOD.

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A number of interesting facts are brought to light by a comparison of the clinical course of pneumonia and pleurisy in children and in adults. The statistics as to the frequency, clinical course, etiology, prognosis and diagnosis of these affections are points about which important distinctions and differences revolve.

Contrary to current belief pneumonia is by no means rare in infancy. It is true that the bronchial, or catarrhal type of pneumonia, is by far more frequent than the croupous, but, nevertheless, the alert clinician encounters many a case of lobar pneumonia, and I may say not rarely to his own surprise. Any one who sees much of

sick children soon becomes suspicious of a certain complex of symptoms and explores the lungs carefully under these circumstances for evidence of pneumonia.

Pleurisy as a primary condition is relatively common in adults; primary implying its independence from acute pulmonary inflammation. On the other hand, primary pleurisy is exceedingly uncommon in children. Here it is either associated with pneumonia (pleuropneumonia) or it develops as a sequence (metapneumonic pleurisy). Again, while the majority of pleurisies in adults are serous, in children they are usually purulent.

Let us first take up pneumonia. Statistics show that it is more frequent in children than in adults. Before the sixth month it is rare. Boys are more frequently attacked than girls.

The upper lobes are more often the seat of consolidation than in adults, the right being especially vulnerable on account of the greater size of the right bronchus, which allows micro-organisms to gain access here more readily than on the left side. While the majority of cases are primary, still it may be associated with influenza, whooping-cough, meningitis, ileo-colitis, nephritis and some other conditions.

The pneumonia may be frank and present the classical symptoms of the disease. In place of the characteristic chill infants become cyanosed, the extremities cold, and there is pronounced systemic depression. Following this the temperature rises abruptly and remains steadily elevated or markedly remitting for from five to eight days, after which there is a sudden drop below normal (crisis). Naturally we expect to find nervous symptoms, but these may be nothing more than drowsiness and prostration. The usual physical signs are present in the chest. Sometimes convulsions usher in the attack.

Such cases, in my own experience, are rather the exception. Certain deviations from the typical course of pneumonia belong especially to the period of childhood. While they are characteristic to a certain extent, still they really complicate matters by drawing our attention away from the chest and directing it to the abdomen and brain.

Cerebral symptoms are so prominent in some cases that we incline to regard them as meningitis until the crisis comes and with it a vanishing of all unfavorable symptoms. Again, marked distention of the abdomen, with or without diarrhœa, may draw our at-

tention to the abdomen to the exclusion of the thorax where the chief trouble lies. Often the case simulates appendicitis closely.

A case typical of the first class was seen some time ago with a colleague who had attended a girl of five years for whooping-cough. The disease was in its third week, advancing uneventfully, when suddenly high fever and intense headache developed. Photophobia and rigidity of the neck muscles were associated. Meningitis was suspected, but on examining the chest the right upper lobe was found consolidated in its entirety. The fever dropped by crisis, the symptoms abating at the same time.

Recently I saw, in consultation, a girl seven years old who was taken ill during the night with fever, vomiting and abdominal pain following upon eating cakes, nuts and lemonade on the evening of the same night. The abdomen was considerably distended and tender, and peritonitis being suspected, a purge was administered with but indifferent result. To my mind her appearance was chaarcteristically toxic, and I was struck by the flushed, sub-cyanotic hue of the face, leading me to suspect lung mischief. Posteriorly a patch of consolidation in the right lower lobe was discovered, and the diagnosis of lobar pneumonia made, which the subsequent course of the case verified.

Tuberculosis in infancy is usually of the caseous variety (acute), for which reason it simulates lobar pneumonia in many instances in its early stage. When pneumonia migrates involving first one portion of the lung and then another, the similarity becomes very close. The course is protracted and the diagnosis consequently difficult. Here the family history and history of exposure to tuberculous infection is of value. The ultimate occurrence of the crisis, of course, solves the problem.

The advent of pleurisy may be suspected when the temperature continues beyond the usual limitations of the disease, becoming remittent. Instead of resolution, physical signs persist. The detection of fluid and its differentiation from consolidation is not always easy. It is here that the careful use of the exploring needle is not only justifiable but imperative. The bacteriology of pleural effusion has been exhaustively studied by Strauss and Netter in adults, and Koplik in children.

Pneumococcus pleurisy is the commonest form in children. It may occur simultaneously with pneumonia, but more frequently it is secondary. Again, it may not occur until several weeks after the attack of pneumonia. The exudate is thick, creamy and not clotted,

the prognosis being better than in the *streptococcic variety*, in which the pus reaccumulates even after thorough evacuation, making the course a protracted one. This form is more common in adults.

Tuberculous pleurisy may develop independently of pulmonary tuberculosis, but in such cases tuberculosis of the bronchial glands and lesions elsewhere usually exist. The effusion at first is serofibrinous, later becoming purulent. The course is slow and unfavorable. The pneumococcic variety, therefore, is the one that offers the best chance for prompt cure under appropriate treatment, while the streptococcic and tuberculous seldom recover without radical surgical interference.

The different phases which are assumed by pneumonia, clinically, have led to the recognition of a number of varieties. While this subdivision is not permissible, pathologically, still it is of some practical value. Let us remember that in pneumonia we have an infection that may remain localized in one lobe of the lung or spread to adjacent lobes and into the pleural cavity, in some instances even becoming a general infection, thus assuming the course of a septicopyæmia. Again, the amount of toxin produced and its effect varies in individual cases. In some the brunt of the attack is centered upon the nervous system, in others the heart or digestive tract are chiefly affected. Then there are cases in which even with considerable pulmonary consolidation there is practically no toxæmia.

On account of the greater instability of the heat centres in childhood the temperature is more irregular and remitting than in adults. For this reason the so-called *remitting pneumonia* and *pseudo-crises* are more common in children than in adults.

Cerebral pneumonia has many symptoms in common with meningitis. The retraction of the head, however, is usually associated with rigidity of the entire shoulder girdle, in this way differing from meningitis. Again, the symptoms develop early, while in meningitis complicating pneumonia, they develop late in the course of the disease, and the crisis is accompanied by a disappearance of the cerebral symptoms.

Wandering pneumonia implies a spread of the process by invasion of other lobes of the lung. The course is protracted, and signs of resolution will be found in one portion of the chest, while adjacent thereto will be found signs of fresh ivasion.

Central pneumonia begins in the center of a lobe, and it may be several days before the signs of consolidation can be made out.

Koplik is of the opinion that every case of central pneumonia will come to the surface in due time.

Pneumonia with gastro-intestinal symptoms. As has been said previously, gastro-intestinal symptoms are, as a rule, prominent in children. They may be due to toxæmia, or the direct result of the pneumococcus. I have in several instances found pneumococci in the stools of infants under these circumstances. Abdominal pain and rigidity—probably due to involvement of the diaphragmatic pleura—give some cases an outward resemblance to appendicitis.

Abortive pneumonia is rare in children. Fulminating cases, proving fatal in the first twenty-four hours, are relatively more common, although these are more in the nature of a general pneumococcus infection.

Typhoid pneumonia. This is a misleading term like "typho-malaria." It simply indicates pneumonia with pronounced toxæmia, in which the patient sinks into a typhoid state. When the temperature is remitting and diarrhœa at the same time present, the picture becomes quite misleading. Such a case was sent into the children's ward of the Hahnemann Hospital this summer as one of typhoid fever. The Widal and Diazo reactions, however, were absent, and examination of the chest revealed a pleuro-pneumonic process involving the lower portion of the left lower lobe.

Pleuro-pneumonia is a combination of pneumonia and pleurisy. With every case there is associated more or less pleurisy, but in this type the pleura is markedly involved, being covered with a thick layer of fibrinous exudate. Turbid serum exudes from the meshes of the exudate, but there is seldom enough fluid to make a successful aspiration.

The prognosis of pneumonia is unfavorable, but in robust children between the ages of three and ten years the mortality rate is surprisingly low. When associated with pleurisy it is more grave. With early evacuation of the pus a case of empyema usually gets well within a few weeks. This applies to the pneumococcic variety, and for this reason a smear of the exudate should always be examined microscopically. The other forms of empyæma are purely surgical.

After all that has been said in regard to the critical course of pneumonia there remains little for discussion in the diagnosis excepting the physical signs. On account of its aberrant course and the absence of characteristic symptoms pointing directly to the lungs as the seat

of trouble, it becomes our duty to examinen the chest thoroughly in every febrile affection of childhood. Not only pulmonary consolidation but also pleural effusion may exist without a single symptom arousing suspicion of the same. I was particularly impressed with this fact by a case sent into the Hahnemann Hospital this summer which came under my observation through the courtesy of my chief, Prof. Bigler. The patient was a boy, nine years old, in the beginning of the second week of a mild attack of typhoid fever. The right pleural cavity was filled with a serous effusion reaching up to the third rib in front, while no dyspnœa was complained of, and there was no cough. Bulging of the affected side was absent. Close questioning brought out the fact that he had felt some stitching pains in the lower region of the chest a week previous, but he had made no mention of it.

It does not seem essential to view the physical signs of pneumonia. This much may be said, however, that slight shades of dulness are more difficult to demonstrate in the child's chest than in the adult, and our percussion must be light in order to bring out the difference in pulmonary resonance over the various chest areas. Tubular breathing is also difficult to detect at times, and it is not always possible to distinguish between normal and abnormal bronchovesicular breathing on account of its relatively wide distribution and the normally harsh character of the child's breathing. For this reason a diagnosis should never be based upon the presence of any one single physical sign, but every element in the case must be taken into consideration. The crepitant rale is usually missed, but during resolution *crepitatio redux* is abundantly present.

Pleurisy may be suspected when the child shows a disposition to lie continuously upon one side (the affected side). When effusion has taken place it turns back to the dorsal position and may want to be propped up on account of dyspnœa. The signs of fluid in the chest are not constant and uniform. With a large effusion they are characteristic, but smaller effusions and encapsulated fluid may offer considerable difficulty in diagnosis.

I have not found bulging of the affected side of the chest and intercostal spaces together with immobility reliable diagnostic signs on account of their absence in many cases. True, where I have been able to evacuate a pint or more of pus this condition was present, but such is not the average case. The child's thorax is more yielding than that of the adult, but the intra-thoracic pressure is more evenly

distributed, and again, small accumulations of pus are quite common in children, for which reasons we should not expect to find much bulging under ordinary circumstances. Riesman in his clinical teaching lays special stress upon the absence of vocal fremitus over the site of the effusion, and the sense of resistance experienced in percussing over this area. By immediate percussion with the entire hand this resistance is best demonstrated. Of all the classic signs the coexistence of these two seems to furnish the most trustworthy information.

Auscultatory signs actually may be misleading. While fluid usually produces an enfeeblement or complete obliteration of the respiratory sounds, still it may be looked upon as pathognomonic of effusion, if, following an attack of pneumonia, persistent bronchial breathing remains over the entire affected side, posteriorly. Displacement of the viscera is an important sign when this exists together with other signs of effusion. There is much more to be said about this subject, but the scope of the paper forbids further discussion.

The one positive sign of fluid, after all, is finding the same by means of aspiration. The importance of making an early diagnosis, both from the standpoint of prognosis and treatment, need not be defended. The necessity for having recourse to the needle in order to confirm the diagnosis is not to be taken as a reflection upon our diagnostic ability. If such authorities as Osler, Koplik and Strumpell plainly say that a positive diagnosis cannot be made without aspiration, in many instances we should not hesitate to avail ourselves of this harmless procedure.

Treatment.—While there is no specific or curative serum for pneumonia, still we are most fortunate in possessing such remedies as *Aconite*, *Bryonia*, *Phosphorus* and *Sulphur*. Besides medicinal treatment we have in hydrotherapy a most valuable adjuvant.

In the presence of continued high fever, and especially when there is pulmonary congestion and dyspnœa, I apply the cold or luke-warm pack to the chest, renewing the same every half hour until results are obtained, after which it may be changed every two hours. When toxæmia is pronounced I resort to high rectal enemata, using two quarts of hot normal salt solution and leaving about eight ounces in the bowel. This procedure both washes out the large intestine and aids in the elimination of toxins by promoting free diuresis; besides it is a good stimulant to the abdominal sympathetic. One of the

most remarkable recoveries that has come under my notice was a child seen with Dr. Wm. Weaver. This was a case of pleuro-pneumonia in a child two years old involving the middle and lower lobes of the right side. There was hyperpyrexia and profound toxæmia, the child lying in a stupor for four days. Remedies were carefully selected and stimulation resorted to, but it was apparent to all concerned that the packs and enteroclysis were largely responsible for the ultimate favorable outcome.

Oxygen is another life-saving adjuvant. We should not reserve it for the last stages of a hopeless case, but use it as soon as cyanosis, embarrassed breathing and failing heart are present.

When fluid in the chest is suspected we should aspirate both in order to verify the diagnosis and determine the character of the fluid. If it be serous, we should not be in too great a hurry to evacuate; as a rule, it will absorb in due time.

Pus must be freely evacuated. A simple and very efficient method of treatment of empyema is by means of incision of the intercostal space and the insertion of a drainage tube. This is an operation that can be done even without the use of a general anæsthetic in older children. The fifth and sixth interspace in the mid-axillary and the sixth and seventh in the post-axillary line are the sites of election. Two small drainage tubes placed side by side, with a safety-pin through their free ends afford the means of exit for the pus. Should the purulent discharge continue beyond three to four weeks the case may be considered a surgical one, and resection of a piece of one or two ribs performed to that the finger may be introduced into the pleural cavity, and adhesions broken and clots of pus and fibrin evacuated. A remedy that has proven useful in the early stage of empyema is *Chininum Arsenicosum*. Later, we will require *Hepar*, *Calc. sulph.* or *Silica*.

DISCUSSION.

Dr. E. R. Snader: I certainly agree with Dr. Raue as to the frequency of pneumonia of the croupous type in children. During some of my months of service at the Children's Hospital, of the pneumonias, the lobar form predominated; I have almost become convinced that croupous pneumonia is more prevalent in children than bronchial pneumona. Cases come to the hospital with all sorts of diagnoses, and we find that they have croupous pneumonia. In-

dividually (in an infant), unless there is some serious complication, I have not been compelled to use the resourceful measures that the doctor speaks about. I do not know any acute disease in which I consider the prognosis so favorable as I do in croupous pneumonia in an infant over a year old. If, however, pneumococcic meningitis coexists the prognosis is altered somewhat, but I have seen most desperately sick looking children with meningitis following pneumonia, and probably due to the same micro-organic cause, recover speedily. Of course, I have had some die from the meningitis. In most cases the diagnosis is dependent absolutely upon physical signs. They are discoverable in the vast majority of cases by careful examination. In the central variety spoken of we sometimes have to wait two or three days, and it will be surprising if you will walk down the wards of the hospital and see some cases that when they first come in are labelled as gastroenteritis, or meningitis, or some other infantile disorder, suddenly take a drop in temperature and start to get well, and if you are not in the habit of making physical exploration of the chest you miss the diagnosis of all these cases of croupous pneumonia, which you have been treating, and imagining to be some other malady. I think the doctor has done great service if he points out, as he has undoubtedly done, the absolute necessity for careful examination of the chest of every child during acute disease. The physical signs are sometimes hard to find, but, as a rule, in this form of pneumonia they are quite massive. I want to ask you not to expect to find the crepitant rale. You may get it, exceptionally you do, but you will get signs of consolidation by percussion (carefuly conducted), limited usually to a lobe, and very soon you get decided evidence in the breathing, and in very few instances you may have no physical signs at all of any description until just at or after the crisis. Those are the cases that make you think you are dealing with pleurisy. With the author of this paper I find the diagnosis of pleurisy in a child is often a more difficult proposition than the diagnosis of pneumonia. Almost always the respiratory change that takes place in the child's chest as a result of pneumonia or serous or purulent pleurisy is bronchial breathing. Rarely, indeed, is the respiratory murmur suppressed or diminished as in most adults. You must interpret the signs according to the modifications that occur in the percussion note. I depend upon the percussion note more to differentiate the degree of consolidation in the lung than I do any other one factor. In these children, as a

rule, you cannot get the vocal signs unless they happen to cry. If they happen to cry and the vocal resonance and fremitus is diminished over a dull area, you have additional signs, providing the bronchial tubes are patent. If you are in doubt you can take advantage of the method proposed by Dr. Raue. There is one point I wish to lay great stress upon. You seldom find a consolidated lung in a child that will give rise to a very decided, easily recognized dulness. At most a pneumonia gross in character will slightly modify the note. That requires a careful ear to detect it, but when you get decided dulness on percussion look out for fluid.

Dr. Charles Mohr: I would like to find out from Dr. Snader why it is that the mortality rate is so small in these cases of pneumonia in children, when no diagnosis has been made. He says that there has been a sudden drop in temperature of these hospital cases, and then it is discovered that the child has pneumonia and gets well. Do they get well because they have been symptomatically treated by some homœopathic remedy, or is it because the lung is not supposed to be closed, and, therefore, no direct medicine was applied to the lung tissues, or no germicide used, or no agent which is supposed to be antiseptic or a germ destroyer?

Dr. E. R. Snader: I hope Dr. Mohr does not accus me of not making diagnoses. These cases come in without diagnoses or with wrong ones. They were diagnosed pneumonia after admission. I am only saying what they had been considered without that diagnosis, and I must say that they received very little medicine because they did not need it. Most of them got well almost spontaneously.

Dr. C. S. Raue: Dr. Snader has kindly gone more thoroughly into the physical signs of this very important condition than the scope of the paper permitted. Really the most important part of the diagnosis is to thoroughly understand the physical signs, because the symptoms are exceedingly misleading and may make us think an entirely different disease is present. We may think at first we have a case of meningitis or typhoid fever or peritonitis, and to our amazement find the entire lobe of the lung is consolidated, and we have pure bronchial breathing there and considerable impairment of resonance of the percussion note. As to the treatment, the prognosis is exceedingly good in an ordinary uncomplicated case of croupous pneumonia in a young child. In fact, the condition is considered so unimportant that men like Chapin, of New York, who have a very large experience in that class of disease, says practically

no treatment is necessary. They insist that pneumonia in childhood is a self-limited disease, and that all you have to do is to put the child to bed; if it has a very high temperature put a cold pack around the chest, and if it becomes toxic, use a simple washing-out of the intestines, leaving a little water there so that the kidneys can act a little more lively than under ordinary circumstances, and the case will get better without any medicine. We do not take that stand. We give our treatment symptomatically, and in that way undoubtedly very often prevent a serious extension of pleuritic inflammation, and no doubt avert other complications from occurring in many cases, or eventually the child dying of œdema of the lungs. Our remedies will do much to avert complications, but I do not believe they have the slightest effect on the natural clinical course of the disease. If the case is going to have a crisis on the fifth, eighth or ninth day, it is going to come at that time. We can keep the violence of the symptoms in check and nothing more.

THE DIAGNOSTIC VALUE OF THE NORMAL CONSTITUENTS OF URINE.

WALTER W. SEIBERT, A. M., M. D., EASTON.

In the treatment of disease, we must often call to our assistance one or more of the many other sciences. If our knowledge were perfect we would find that all sciences would blend to such an extent as to make their definition indistinct, and in some cases absolutely impossible. But, unfortunately, our knowledge is very imperfect, and, as a result, there are no cases where gaps between the various sciences do not exist. It is true, endeavor has been made to bridge some of these breaks, but successfully only to a limited extent. When it comes to chemistry, or more especially to urinalysis and diagnosis, this gap shows up prominently. We have the science of chemistry worked out for us to the finest detail, and to make a urinalysis sufficiently correct for our purpose becomes a simple matter. On the other hand, symptoms have been studied and arranged so that diagnosis in most cases can be easily made. But when we find an obscure case where every detail must be taken into consideration in order to arrive at a correct conclusion, then we find a task which requires a more thorough knowledge than is possessed by the average

general practitioner. Here the gap between urinalysis and diagnosis becomes annoying and the necessity of bridging it the more urgent. Hence, the specialist. But we do not often make a wrong diagnosis or call in the specialist when a little more attention to detail would make correct diagnosis a comparatively easy matter.

Many practitioners in making a urinalysis will take the specific gravity and reaction, look for albumin or sugar, sometimes for both, and, finding the urine in these respects as it should be, throw the specimen away and say he has made a urinalysis. The examination has revealed nothing to such an one. Allow another general practitioner who pays more attention to detail examine the same specimen, and he may find an abundance of evidence of a diseased condition. The question then arises as to what should be sought for in urinalysis and what significance will the results of this analysis have in forming a diagnosis.

In the first place, the physical characteristics must be observed. The amount in twenty-four hours, the color, the odor, the specific gravity from which the total solids are computed, the reaction and appearance must be carefully noted in every analysis. In the next place, the normal constituents must be investigated—whether present or absent. If present, the quantity of each constituent should be determined, whether absolutely or relatively increased or decreased, and to what extent. Finally, the abnormal constituents must be discovered, if present, and the quality and quantity determined. We have to do, however, in this paper only with the substances found in normal urine. Those of clinical interest are urea, uric acid and urates, phosphates, chlorides and sulphates. Of course, there are others which under certain conditions must be investigated, but the above five are all that need be examined in every analysis. Urea constitutes one-half; common salt, one-quarter; the remaining substances, especially uric acid and urates, phosphates and sulphates, the remaining one-quarter of the total solids. This ratio is maintained more or less exactly during health. So it is but natural to suppose that any marked variation in this proportion would indicate a derangement somewhere throughout the body. To show the value of examining these substances as they appear in the urine, we will investigate urea more especially.

Urea, the most important of the solids, normally varies in quantity from 20 to 30 grammes in 24 hours. It may be practically absent as in advanced cases of acute yellow atrophy of the liver or before and

during an attack of uræmia. If its marked scantiness be prolonged, we must look for uræmic convulsions or coma and death. When the total quantity excreted in 24 hours is diminished we have what is called absolute deficiency. Besides the two diseases just mentioned we may have this condition in other diseases of the liver; before paroxysms of gout or asthma, in yellow fever, cholera, diseases of spleen; Addison's disease; osteomalacia; chronic rheumatism; and other chronic diseases, especially many nervous ones, chlorosis, paralysis; ovarian tumor, uterine cancer and chronic nephritis.

When the amount of urea per ounce of urine excreted is below normal, we say there is relative deficiency. Relative deficiency may be more than counterbalanced by an excessive quantity of urine. Then we have absolute increase and relative deficiency in the same sample. Relative always refers to grammes per litre. Absolute always refers to total quantity in 24 hours.

There may be a relative deficiency after excessive ingestion of fluids. Or, pathologically, in chronic nephritis, except when dropsy is excessive; diabetes insipidus; hysteria (after paroxysm); anæmia; and some cases of neurasthenia.

Absolute increase may occur in acute febrile diseases with emaciation. Under this head we would have typhoid fever, pneumonia, the exanthematous diseases, typhus, remittent fevers to some extent, and intermittent fevers before the chill. This condition may also exist in pyæmia; some cases of diabetes; atrophy from dyspepsia in children; phosphorus poisoning; some nervous diseases, as muscular atrophy; sometimes in different bronchial catarrhs without fever.

Relative increase may occur physiologically, due to causes which would diminish the quantity of urine, especially abstinence from liquids. Pathologically, it would occur in febrile disorders, especially acute rheumatism; acute or chronic nephritis, where the urine is concentrated and high colored from dropsy; congestion of the kidneys; certain hepatic diseases; some cases of diabetes mellitus; certain nervous diseases; before the convulsions of pregnancy.

We have briefly gone over the diseases which may be accompanied by variations in the amount of urea, but from these data alone we cannot make a diagnosis. However, when we call to our assistance other symptoms—the more the better—we find our above lists are often of the greatest help in coming to a conclusion. The most marked example of the value of the normal constituents may be seen in diagnosing amyloid degeneration. The symptoms of amyloid degeneration

and chronic diffuse nephritis are so similar that differentiation frequently becomes almost, or quite, impossible. Often the only diagnostic symptom is to be found in the urine. In amyloid degeneration the total solids may be almost, or quite, normal. In chronic diffuse nephritis, on the other hand, the normal constituents or total solids, especially urea and phosphates, are markedly decreased. It is not in diagnosis alone, however, that knowledge of the condition of the urine may be of use to us. The variations in amount of urea give us a delicate index in determining the course diseases are taking under treatment and in prognosis generally.

In applying what we have learned of urea to diagnosis and prognosis, there are certain facts that should be borne in mind. High relative urea may be more than counterbalanced by scanty urine, which would mean deficient absolute urea. On the other hand, on the same diet more urea relatively and absolutely may be passed in two pints than in double that amount of urine. Uræmia, especially in pregnancy, can develop when a few hours before the amount of urea was normal. Finally, we must remember the action of certain drugs on the excretory power of the kidneys.

Briefly going over the subject in this way can do no more than call to our attention some facts which may have escaped the notice of some of us. These facts are of great importance, however, and if closer investigation be made of not only urea, but the other substances found in normal urine, data will be obtained which may make a diagnosis more certain and a prognosis more reliable.

ON THE FREQUENCY OF PULMONARY PHTHISIS IN INFANCY AND CHILDHOOD.

EDWARD R. SNADER, M. D., PHILADELPHIA.

The frequency with which phthisis pulmonalis is found in infancy and childhood is not dreamed of by the general medical profession. I shall not attempt to quote statistics, but shall draw from my personal experience in the detection of this malady in the little ones I have seen in my private, consulting and hospital practice. From the number of cases that are sent into the hospitals with a wrong diagnosis, or with none at all, I am forced to the belief that the general profession do not think much of the probability of the lungs being affected

by a tubercular or tuberculo-pneumonic process in the lungs, and think only in childhood of tuberculosis of the bones, the brain, membranes, the intestines, or the peritoneum as being likely to be affected by a tuberculous process. It is to call attention to the fact that lung maladies of the tuberculous and chronic broncho-pneumonic type are very frequent, indeed, in children, that this paper is written. There has been such a crusade against tuberculosis in the adult, that there has been created a general tendency, at least, to pay more attention to the early diagnosis of phthisis in adults; this crusade has not yet apparently extended to children. We dare not neglect the adults; neither must we neglect the little ones; but I fear many of us are neglecting the proper examination of children's chests for evidences of disease. There are a number of reasons why tuberculosis is not more frequently discovered in children, as 1. Failure to apprehend that lung disease is frequent in children. 2. Neglecting the examination of the chest. 3. Dependence upon cough and emaciation to suggest the presence of pulmonary disease. 4. Failure to recognize the fact, known to most clinicians, that it is extremely rare for pulmonary tuberculosis to pursue what might be called a typical course in infants or children. 5. The fact, too, that the disease may be a sequence of an acute malady, and the little ones are too soon out from under the observation of the attending physician. 6. The clinical observation that tuberculosis of the lungs in infants and children often simulates other diseases, or is masked by a diathetic state, or occurs in connection with some chronic affection, and its symptoms are undiscovered, or misinterpreted. 7. The difficulties attending thoracic examination in children; and 8. The absence in infants and children under 7 of the corroborative evidence furnished by microscopic examination of the sputum.

Among the more prominent causes of failure to discover lesions in the young with those who do examine the chest carefully, is the mistake of not appreciating the fact that the child's thorax, so far as investigating it by the methods of physical diagnosis is concerned, is a radically different proposition from that of the exploration of the chest of an adult. In the first place, the same amount of force applied in percussing an infant's chest as would be used in a fairly grown child would absolutely defeat the very object for which percussion is made, for the resonance induced by the percussion-strokes would be derived from so large an area that tone modifications resulting from small lesions would be obscured or fail of detection,

and all this because of the resiliance of the child's chest. Too often sight is lost of the fact that you can easily produce in the thoraces of most children, by improperly conducted percussion, the tympanitic, amorphic or cracked metal notes, in cases where the lungs are absolutely normal; and if this fact be forgotten, a cavity may be diagnosed where none exists. (I may remark, in passing, that cavities are frequent in the lungs of the young as the result of destructive processes, contrary to the statement of the infrequency of this lesion in childhood, as stated in text-books.) The deformed chests of children, due to prolonged attacks of coughing, as in pertussis, the bronchitis of measles, the changes due to rickets, are factors, too, occasionally, that interfere somewhat in the precussion of the chest in the young, in the hands of those who do not make allowances for the changes of sound that must necessarily ensue as the result of these deformities of the chest walls. Light, extremely light, percussion is the method of most service in discovering abnormalities in the percussion-sounds; and, by the way, while the persussion-note is not invariably altered in pulmonary diseases of children, if it were not for the modifications that take place (as the result of disease) in the percussion-sounds, the difficulties attending the diagnosis of the diseases of the chest in the little ones would be increased ten-fold, and these difficulties are great enough already. While auscultation is less interfered with on account of the structural peculiarities of the young chest than is percussion, it must be remembered that the respiratory murmur in the very young is apt to be harsh, and occasionally even bronchial in character (without lung lesions), owing to the nearness to the chest walls of the primary divisions of the bronchi or to the ease of the transmission of the bronchial element, and also, in some instances, to unexplained causes. In these latter cases, if one trusted alone to the character of the breathing, to the exclusion of the modification of sound obtained by percussion, or the changes in the vocal sounds induced by the acts of crying, mistakes would be an every-day matter. If one is not previously acquainted with the characters of one of these "bronchial-breathing chests," if I may so characterize them, he is often in doubt as to whether or not there is a pathological basis for the apparent departure from normal. However, when this bronchial breathing is heard over a wide area and over both sides of the chest, if it is representative of a lesion or lesions, it would be exceptional, indeed, if the other methods of physical diagnosis would not furnish corroborative evidence of the normality or abnormality

of the suspected areas. The adventitious respiratory sounds, the rales, while often present to careful auscultation, cannot be produced, when apparently absent, as in the adult, by certain maneuvers; and unless the child can be made to cough, you may sometimes be compelled to translate mere "moisture" of the respiratory sounds, if I may so put it, into moist rales, until such a time as luck favors you, or an act of coughing comes to your rescue. This difficulty is, of course, less in comparatively advanced children, who can be made to understand that you want them to breathe deeply or to cough.

The diagnosis is, in some cases, rendered difficult by reason of the fact that many of these cases are not suspected to have anything wrong with the lungs, but their symptoms are referred to the gastro-intestinal tract, the throat, or to adenoids, or to rickets, to typhoid fever or malaria, or some other of the infantile maladies. Besides, cough is seldom a prominent symptom in the lung diseases of a tubercular character in children, and may, indeed, be entirely absent, from start to finish, at least to such an extent as that, if you inquire for a history of cough, the symptom is so little obtrusive that the care-taker will reply in the negative when you ask if the child has coughed. Early emaciation is not at all a pronounced symptom. Indeed, it may be absent until a few days before the end, while in still others it is the most marked feature of the case, and is the one for which you are consulted, and often leads to the diagnosis of marasmus in too many instances, when the "marasmus" is simply symptomatic of phthisis. I recall one group of ten marasmatic babies, in which I found that eight were due to tuberculosis of the lungs, one to tubercular peritonitis, and one to rickets. Of course, groups of cases of that marasmatic character need not all furnish anything like the proportion of tuberculosis cases. I simply recall this particular group because it is the one that made me think more about the prevalence of tuberculosis in the very young than my reading, my careless examinations, or my prior experience had led me to suspect. Fever, as a symptom of pulmonary tuberculosis, is in some cases the most pronounced sign of ill health discoverable, although some cases run an absolutely afebrile course; at least they have in my experience, where I have had an opportunity to make temperature observations. A flare up of fever every now and then is very suggestive of tuberculosis somewhere, and mostly in the young, particularly in infants, and this, I say, with all deference for and belief in the well known clinical fact of the singular instability of the temperature in some men and

women, and with a very full realization, too, that the most trifling ailments will send the temperature skyward. But that symptom at once, without any other whatever, makes me at once examine the child thoroughly and the lungs with particular care.

In the diagnosis of these cases we are also lacking in an aid that we often have in adults, namely, the sputum, for it is seldom that you ever get sputum, even though you have cough, in a child under 7. We miss, therefore, the important corroborative evidence that might possibly be furnished us by the discovery of the tubercle bacilli by the microscope.

From all these considerations you will imagine that the diagnosis in the young is beset with difficulties, and in many cases the view is not far from right, and yet this is not always the case. By careful attention to the percussion-note and the auscultatory phenomena, a diagnosis can in many instances be made with more than a reasonable degree of certainty. You will also gather from what I have said that the diagnosis is absolutely dependent upon the discovery of the signs indicative of consolidation or cavity by means of physical diagnosis. This fact I want to emphasize with all force, for if you depend upon rational symptoms in children you will not get them, and the frequent absence of cough, and of emaciation, and sometimes even of fever and rales, make this more positively evident. Let us imagine that you have discovered undoubted evidences of consolidation about the chest, particularly at the apex, but practically anywhere in a child's chest; the chief difficulty hinges, then, upon the interpretation of those sound signs as indicating either a tubercular or a broncho-pneumonic process, or a latent lesion, or scar of a past malady. The differentiation of these two diseases when the area is small, it must be admitted, is sometime impossible, until some time has elapsed, and you have an opportunity of frequently noting the successive changes that take place in the consolidation, either in the process of organization, break-down or resolution, together with the concomitant symptoms and febrile phenomena presented by the patient; but, on the one hand, if these consolidations are the sequelæ of an acute disease, they are more likely to be broncho-pneumonic; and if a separate process, or occurring in connection with some diathetic state, the consolidations are more likely to be purely tubercular. Another fact is this, that it practically does not make much difference in the progressive cases, at least, whether it be a purely tubercular or broncho-pneumonic case, for the termination is the same, and I therefore prefe

the term phthisis pulmonalis, or "consumption," for this class of cases where there is an active lung consolidation and a differentiation cannot be positively made. A still greater problem is sometimes presented when you find consolidation without fever, and which is making little or no downward progress, for here the differentiation is between a progressive and a non-progressive lesion; for some of these cases, notably in children over 2 years of age, *do* get well, while most, if not all, of the infants, in my experience, die, whether the lesion is a latent one or the scar of a previous affection. In some of these cases the point raised can be settled at once by the absence of rales and the perfect health of the child, aside from the presence of a readily discoverable cause for the symptoms that lead you to suspect that the child's lungs might be diseased.

Anæmia is a suggestive sign, too, of phthisis, and this is one of the commonest affections, or rather conditions, that lead to error in diagnosis; namely, considering the anæmia relatively essential rather than symptomatic. Gastro-enteric disorders are often symptomatic, rather than essential, and marasmus, above all other affections, presents the most marked cases of phthisis pumonalis.

My plea, in this paper, is for the thorough investigation of the thoraces of children for tubercular or broncho-pneumonic processes in the young, for the purpose of rendering intelligent therapeutic aid, and because a certain number of these cases can be saved. I have seen a number of recoveries when the disease was recognized early, and believe that the prognosis varies in a general way, with the years. For instance, the infants die: in those beyond two and up till within a year or two of puberty, recovery is quite frequent; and after puberty again the prognosis is bad until toward the middle period of life, when it is better than during the adolescence. Let us see if we cannot do better work with the little ones in our charge, and save at least some from the "white death!"

DISCUSSION.

DR. C. S. RAUE: I thoroughly agree with Dr. Snader in the majority of the statements he has made, and I think we owe him a debt of gratitude for calling the attention of the society to the great prevalence of tuberculosis in children, especially in very young children. At the present time, when the subject of tuberculosis is being agitated all over the country in popular magazines, we imagine that only

adults die of consumption and children go free, and in case they do have it nothing can be done for them, for only if you can give the patient twelve raw eggs a day and make him live in an open camp, can he get well. That is not the case. The frequency of tuberculosis in children must have impressed anyone who has attended autopsies in a children's hospital. It is appalling to see the number of tuberculous lesions we find there, not always in the lung, but especially in the bronchial and mesenteric glands. There will often be extensive ulceration of the intestines without the child ever having had diarrhœa or hemorrhages from the bowel. The susceptibility of infants to tuberculosis is notorious. It is a great error for physicians to imagine that because a child has not a tuberculous family history that that child is not going to get tuberculosis. Any child that is exposed to the tubercle bacillus will get tuberculosis if he gets enough bacilli into his system. That has been absolutely demonstrated over and over again, and the greatest care should be taken with infants to guard against tuberculosis. They are more liable than adults, because they crawl over the floor and put things in their mouths, and their tissues are less resisting than the tissues of the adult. The pathology of tuberculosis in children is somewhat different than in adults. In adults it almost always begins in the apices of the lungs, starting there and gradually becoming more extensive, and here and there we may have a few scattering tubercles, but in the infant the process almost invariably begins primarily in the bronchial glands and thence it spreads by the lymphatics along the root of the lungs, when we have a diffuse infiltration resulting. For that reason cavities are more rare in children, and we are likely to have a more rapid course, because it assumes the type of acute tuberculous broncho-pneumonia. The physical signs are therefore different in the infant and in the adult, and the difficulties of recognizing these physical signs are extreme, especially by percussion, and for that reason I really think percussion is the least valuable diagnostic sign in recognizing pulmonary tuberculosis in children. I think auscultation in connection with the febrile symptoms is a most important sign. One of the very earliest physical signs of pulmonary tuberculosis in young children is localized subcrepitant rales situated in the mammary region. The explanation is that the tuberculous process, spreading from the root of the lungs, invading the lungs along lymphatic channels, will set up a localized process in this region of the chest. Of course, any other portions of the chest may give physical signs and in any locality

in which we have persistent subcrepitant rales we should suspect a tuberculous process. Together with slight pulmonary involvement we will have fever out of all proportion. The child is particularly susceptible to the proteids produced by the tubercle bacillus. The child will have a temperature that will go up to 104, while it is apparently perfectly well and running around as if there was nothing the matter with it. Sooner or later emaciation occurs. One of the most puzzling conditions, I believe, in differentiating from tuberculosis in children, are those cases of continued fever that undoubtedly are simply dependent upon chronic intestinal catarrh. It may take a year of observation before we can conclude there is no tuberculosis in these cases. Sputa are very difficult to get from children under ordinary circumstances. If we insert a tongue depressor, make the child cough and swab out the throat, or pass a catheter down the œsophagus and get sputa that the child has swallowed, we may find tubercle bacilla in large numbers.

DR. HILLS COLE: I would like to ask the reader of the paper whether it has been found that radiographs may help at all in diagnosis?

DR. E. R. SNADER: I never used the radiograph in the investigation of phthisis of children. I depend altogether on physical signs.

THE NATURE OF DISEASE.

ROBERT WALTER, M. D., WALTER'S PARK.

The twentieth and golden century of human achievement, the heir of all previous time, the storehouse of human knowledge and repository of human wisdom, with all its duties and responsibilities, is upon us. The arts and sciences, especially the latter, have already attained to great perfection; the comforts and conveniences of life are numerous beyond comparison; and knowledge has, in many departments, achieved a fullness and certainty that is, to say the least, very encouraging. In a word, Nature *without* lies before us an open book, inviting to further application of her principles and methods.

But there is the world *within* as well as the world without, and it were well for us if we could say that knowledge of oneself had kept pace with our knowledge of things. If it be true that "Greater is he

that ruleth himself than he that taketh a city," how much less true is it that greater is he that knoweth himself than he that knoweth all external nature.

The phenomena of life are divided into two great classes, best known by the terms health and disease. These occur only in living things; each being the product of life, each the manifestation of its power.

Health may be properly defined as the easy, comfortable and normal manifestation of the power of life, while disease is the difficult, uncomfortable and abnormal manifestation of the same force.

The force of health and force of disease are consequently identical in essence, even if they differ in degree. The power that breathes is the same that coughs; the forces and organs that defecate are the same that purge; the power that digests also produces the symptoms of indigestion; the processes which raise the temperature of our bodies to 98 4-5 degrees frequently increase it to a hundred or more, and so every function of life may be performed healthfully or unhealthfully, pleasantly or painfully; no matter which, the function is still a manifestation of the life and product of its force.

And thus we reach the salient feature of that great problem of medical science, the nature of disease. How we shall treat it, is necessarily involved in a knowledge of what it really is. The time is past when it can be considered a mysterious something that has pounced upon us, unwelcome and unbidden, like the midnight assassin, the only relief from which can come through killing him with poison. The force of disease being also the force of health, and both of them the force of life, explains how it is that agents which destroy, or tend to destroy, the one also tend to destroy the other. And how the millions in every age have been deluded to their destruction in the attempt to get rid of their diseases. But paralyzing the heart to stop a fever, deadening the sensibilities to relieve pain, prostrating the vital powers to remove restlessness, in a word, poisoning a patient because he is sick, is no part of the practice of the intelligent twentieth century physician. To employ such measures is to prove one's self ignorant of the very first essential of successful practice, a knowledge of the nature of the thing to be treated. It is the physician's duty to aid Nature, not to combat her; to supply the conditions for good health, not to fight disease.

An excellent illustration of the nature of disease is found in that great representative form of it, inflammation, which is Nature's pro-

cess of healing, even the ulceration often connected with it being Nature's work of cleansing the part preparatory to the healing process.

And it never fails to heal when the power is sufficient and the conditions are favorable. The conditions are all summed up in two words, rest and cleanliness, which, having been supplied, makes the surgeon at least to rely with confidence upon the healing powers of Nature. What is cough but the effort of Nature to relieve throat, bronchia or lungs; what is vomiting or purging but the effort to expel irritating matters; and what is fever but the process of purifying foul tissues even to the extent of breaking them down and burning them up. And how senseless to try to stop these or any other operations of Nature. To cure cough remove the foreign substance or divert the blood from the congested parts, and soothe their irritation, which a little hot water skillfully applied, steam inhaled, or an infinitesimal dose of a similar medicine, will do more quickly than any violent application. To cure purging and vomiting wash out the alimentary canal. In the cure of fever remove its occasions, cleanse the Augean stable, radiate the excessive heat by the application of water, and let the water be cool and soothing, not cold or hot, for both these are irritating, and fever is increased by irritation while it is reduced by soothing appliances. Under such conditions the similar remedy will work like a charm.

Then let the patient rest and Nature will do the rest. A necessarily fatal fever is exceedingly rare, but the patient must rest within as well as without, if the cleansing processes of the fever shall be efficiently done. What do we mean by rest within? We mean to cease imposing on the vital organ's work in addition to the extraordinary operations in which they are already engaged, in breaking down tissue and burning it up. Seldom if ever a case of prolonged fever occurs until the tissues of the whole system have become poisoned, and the fever should not cease until these tissues have been substantially purified. It is during convalescence, and not during the fever, that they are renewed; and the attempt to renew them while the fever continues, and there is no desire for food, and no capacity to appropriate it, is among the most ridiculous and absurd forms of medical practice. The work of the interior organism consists almost wholly of receiving, digesting and assimilating food and circulating its products, to attempt increase of which work while it is already overburdened with the labor of getting rid of what it already has, is practice without rhyme or reason. To introduce new and clean material to

be mingled with foul matters that are being got rid of, is to continue the taint that occasioned the fever, and so to continue the fever. Present day stuffing processes in all forms of disease are but another proof of empiricism run mad.

But if we may not stuff the man who, if he does not loathe, has at least no desire for food, what shall we say of forcing upon the helpless organism the poisonous stimulant which every unbiased mind knows is destructive to health. But we must sustain the vital powers we are told. How does the application of agencies known to be destructive to these powers sustain them? Does forcing a tired horse with spur and lash to make him pull harder or go faster sustain his strength?

Who will say that the appearance of strength thus induced is the equivalent of its possession? Does the engineer increase the amount of his steam when he increases the appearance of it by blowing it off? Then how does calling forth a patient's power to resist the violence of a poisonous stimulant add to his powers? And is it the power we seem to have that keeps us alive and heals our diseases or the power we really do have? Is it true that when power has passed beyond our observation it has ceased to exist? That when we feel weak we are therefore weak; or feeling strong we are strong. On the contrary, is it not true that power always exists, invisible and intangible, before it works, and always continues invisible until we begin to use and expend it? The manifestation of power is coincident with its expenditure not with its possession. "My righteous one shall live by faith," says the good book because no man can live by sight and yet be right.

Some advocate the use of cold baths in varied forms of disease, and produce with them results fully equivalent to those from the use of alcohol or other drugs. They are a form of violence which arouses vital resistance just as does any other violence, and gives an appearance of strength all the while the victim is being exhausted. No man knows, or can know, how much vitality he has until he uses it: every form of violence induces its use and makes us conscious, not of the power we are saving, and which is saving us, but of that which is going from us into work done.

No drug—no stimulant or tonic—can yield to us what it does not have: the power it seems to give is the power it is taking away; so that the more we use of it the weaker we get and the more of it we want; it always produces on the reaction the very ailments it seems to

cure. The yell of fire at midnight when we are in the tenth story of a hotel is as strenghtening as is any other stimulant or tonic.

The use of the word reaction in this connection is not only suggestive but truly scientific, and opens up a realm of reality whose equal is not easily found. All things the product of law is the dictum of science, which consists indeed of deductions from laws and not observation of apparent facts. One law is equivalent to ten-million observed facts; to know the law of the production enables us to produce, control, obviate, or at least explain them at will. It was the discovery of the law that gave us astronomy, chemistry, homœopathy, and every other science that is worthy the name. Science without law is a misnomer if not a fraud. With it we have attained to the knowledge that is power; with it we have made Nature our servant as well as our mistress. In this respect, if in no other, science and religion are in perfect agreement. It is "the law of the Spirit of Life that makes me free from the law of Sin and Death," said the Great Apostle; while the greater teacher said of another formula for achieving success, "This is the law and the prophets." We call attention to a law of Nature which rivals in importance all others; a law underlying all phenomena and consequently applicable to all departments of natural existence—a law as obvious in the medical as in the physical world, and withal so simple that no one need err as to its meaning. Its formula, as demonstrated by the immortal Newton, appeares in the words:

"Action and reaction are equal and opposite."

And there is no exception to this law. Wherever and whenever in all the realm of being an action occurs, the reaction necessarily follows, which in physiology, being its last or ultimate effect, is consequently its real and lasting effect. Stated in other words, and applied specifically to physiology, the real effect of any act, habit, indulgence or agency upon the living organism is the opposite of the immediate, and, therefore, apparent effect, the opposite of what the victim feels and what the physician observes.

And the emphasis is always upon the word "opposite." To determine the real effects of any agency or indulgence upon the human organism make the experiment with it, and then in accordance with the law conclude that the ultimate result will be the opposite of what has been observed. This is what Hahnemann did. He first experimented to find out what symptoms certain drugs would produce, and then concluded that the ultimate effect would be the op-

posite, viz., the drug would cure in the sick man what it produced in the well one. Next to the facts of Homœopathy the known effects of opiates, narcotics, alcoholic beverages are the best illustrations; all experience has proved they produce in the reaction the very conditions they are intended to cure, so that the longer one uses them the more he needs them. These effects are not peculiar to a few drugs; they illustrate a law of Nature as universal as gravitation.

It is this law which constitutes the corner-stone of Homœopathy, even though Samuel Hahnemann nor modern science was its first discoverer. Nineteen hundred years ago it was taught with an authority and emphasis never equalled. He who spake as never man spake it in those wondrous paradoxes which the ages have neither outgrown nor fully comprehended, such as "Give if ye would get;" "Sow if ye would reap;" "Judge not if ye would not be judged," and all summed up in one great universal law of success. "All things, therefore, whatsoever ye would that men should do unto, do ye even so to them; for this is the law and the prophets."

Getting is surely the opposite of giving, and reaping of sowing, but according to these paradoxes while the thing got is always opposite in direction it is similar in kind, the harvest always corresponds to the seed sown; all of which justifies Hahnemann's law of similars, whose paradoxical nature makes it as certain as the paradoxes of Scripture are true.

The law of similars, therefore, is the law of success in every department. "Go sell all thou hast and give to the poor" is the road to infinite riches. "No man hath deserted houses or lands," for Him who is the truth, but "shall receive manifold more in this present time." "With what measure ye mete it shall be measured to you again," and what produces disease will certainly cure the similar one; or, what is so often given as alcohol or opium to cure weakness or pain, or other symptoms, is the most certain agency of their production, all of which is true only because the reaction is the opposite in direction but similar in kind to the action.

Samuel Hahnemann was not, therefore, the first to deal in paradoxes, but he seems to have been the first to clearly perceive the paradoxical nature of disease as well as of its causes and cure. In Sec. 10 of his Organon he shows that disease, as well as health, is the product of the "immaterial vital principle," which underlies all vital phenomena, a truth which is fully explained by recalling the

great fact that two things and two alone are necessary to the production of any result in Nature.

First, the power that produces, and

Second, the conditions for the operation of the power.

It is gravity that turns the water-wheel and generates for us electricity or grinds our flour, but of what use to this end would be the gravity without the wheel and collateral machinery. It is chemical affinity in the dynamite, which first made, and then explodes it, and constitutes the force of the explosion, but how could the explosion be produced without the percussion cap or its equivalent to set it off? So also how could we have a fever or pain without the vital force on the one hand, and injurious application on the other? In every case of disease as in every case of health, therefore, there is the power that produces it and the condition for its operation. These are properly called also the *cause* and the *occasion*. A cause is well defined as "that by the power of which a thing is," while the occasion is that which excites into operation the power that does the work. The cause or force of both health and disease is, therefore, the patient's vital force, while the occasion or condition is the habits, indulgences, conditions that call forth the vitality. When these are healthful we have health; but how can we continue to have health while breathing foul air, drinking impure water or other vile drinks, eating impure food or "wasting our substance in riotous living," until the force of life is so depleted that the functions of the organism cannot be carried on easily and efficiently. Health means the easy performance of vital functions, while disease is the uneasy or diseased performance of the same functions.

Evil indulgences, even bad habits, do not of themselves produce disease; it is the depletion of power through increased vital activity that does this. As long as the power of life continues sufficient to easy and efficient vital work, men may indulge the worst habits, and not only not suffer disease, but, instead, gain from them apparently increased vigor. Diseases come on the reaction, and are laborious and painful, due to deficiency of power only because their occasions give ease and comfort by rapid expenditure of it. Here is the true explanation of the effects of stimulants and tonics; they compel in the present increased vital activity and apparent vigor, but as the power they seem to give comes out of the patient, and not out of the drug, there is necessarily reduced vigor in the reaction corresponding to the previous increase of it.

In this condition, also, we have the true explanation of the mysteries connected with the sudden onset of diseases. Their true cause is not the draft of air, exposure to contagion, or the little over-exertion to which they are ascribed. It is long-continued evil habits which give a delusive feeling of vigor by the very means and at the very time they are exhausting the power that produces the soil for the growth and development of the germs. It is not that the patient caught small-pox, diphtheria, consumption or typhoid; few of those who are exposed ever catch them, their germs are only the spark that sets off the powder; it is the exhaustion of vitality due to the stimulating condiments, table beverages, smoking and drinking habits of the people, which, while they seem to be health-promoting, are really disease producing, that does the mischief. The kidneys are among the first organs that default in their work, producing rheumatism, gout, neuralgias, nervous weaknesses, dropsies, and a whole train of evils, and, finally, Bright's disease, heart failure, etc., all because they are kept so busy carrying out the common salt, spices, alcohol, products of over-feeding and indigestion that their legitimate work is left undone.

But I must not continue to weary you with disquisitions on a subject with which you are all so familiar, but crave your indulgence while I cite a couple of cases illustrative of the principles here advocated. A month since a lady, in care of her sister, came to my institution because she has been rejected by my neighbor, who refused to receive her, though she had been recommended to him by her physician, who wrote of the bad heart murmurs to be heard at both base and apex, takinng from five to seven drops of Strophanthus every four hours, which has acted better than Digitalis, with Codeine sulphate, 1 grain, to induce sleep, which has acted better than morphine. Bromides she did not seem to be able to stand.

I agreed to take this woman under one condition, viz., that she stop all her drugs. With many misgivings she finally consented. The result was marvellous. All her bad symptoms disappeared, she has slept well, and is now really a specimen of very good health notwithstanding her heart murmurs still continue.

A worse case came in the same way the next week. My neighbor refused to receive her, telling her to go to a hospital and get tapped. She was enormously swollen with abdominal dropsy, feet also swollen, liver greatly enlarged, patient emaciated in the extreme, mitral regurgitant murmur, and heart decidedly enlarged, as diagnosed by my

assistant, Dr. Howell. She was hopeless; felt that it was too late, but didn't want to be tapped.

With the full conviction that the theories I have been here advocating would apply to her case with fine results, I agreed to receive her. I put her in care of nurse, stopped her heart tonics, put her upon a milk diet, but did nothing whatever to reduce her dropsy, strengthen her heart or effect any other purpose except to quiet, soothe, rest and recuperate her vitality. Heart tonics, kidney stimulants, sweating baths, and every one of the empirical processes usually recommended for such cases, I rejected as calculated to reduce vitality and prevent recovery. The first week she lost nine pounds of water, in twenty-one days she lost twenty-four pounds, her heart has become greatly improved, and she is to-day weighing only 95 pounds; her dropsy has substantially disappeared, her appetite is enormous, and she is evidently gaining flesh.

Will she get well? Ten years ago an exactly similar case came under my care, but who had interstitial Bright's disease in addition to the dropsy and heart complications. She was enormously swollen, her breathing was also greatly affected, was confined to her bed, and she, too, was offered only tapping for relief. I put her under the same treatment as our present patient is having, and in five months every vestige of her diseases had disappeared, and for several years afterward she continued in good health as long as heard from.

I don't know how to make a liver, lungs, heart or kidneys, and so I don't know how to repair them; but I know of an intelligent force that made these organs and does know how, and is more interested in their repair than you or I can be, and all that is needed to the patient's recovery is to accumulate the power, which is possessed of the intelligence, supply the conditions for its normal working, and then get out of the way. Meddlesome medicine is quite as bad as meddlesome midwifery, about which we have all heard.

REPORT OF THE

SECTION OF MATERIA MEDICA.

A Few Thoughts on Our Materia Medica, by Aug. Korndœrfer, Sr., M. D.
Loyalty to the Pharmacopœia, by T. H. Carmichael, M. D.
Calcarea Carb., Kali Carb. and Graphites, by Edward Cranch, M. D.
The Prophylactic Power of Some Drugs, by J. C. Guernsey, M. D

A FEW THOUGHTS ON OUR MATERIA MEDICA.

AUG. KORNDOERFER, SR., M. D., PHILADELPHIA.

The Materia Medica Pura, as given to the profession by Hahnemann, is the foundation upon which the therapeutic success of the homœopathic school has been built. Of late years, however, we have heard so much alleged as to imperfections in its symptomatology, and the uncertainty of the effect of our remedies when applied therapeutically in accordance with the recorded pathogeneses, that it behooves every practitioner of Homœopathy to seriously inquire into the facts, both for the purpose of ascertaining the basis upon which such adverse criticism rests and with intent to search for means of correction and improvement.

Recognizing the fact that wheresoever complaint persists, some cause, either real or fancied, presumably exists, and recognizing that the complaints above referred to find expression among practitioners who claim affiliation with our school, many of whom are well educated in other departments of medicine, it becomes our duty to make diligent search for the cause.

In such controversies we too often satisfy ourselves by condemning the critic, without even an attempt at understanding his real position; often, indeed, impugning his motives or casting doubt upon the honesty of his purpose. We take unjust delight in showing up his weak points, possibly his ignorance upon certain lines, and by such unworthy means draw attention from the major contention, forgetting that disputation is not argument, mere avouchment is not reasoning.

If faults exist, duty impels honest search and conscience strenuous effort at correction.

But what are these alleged faults? They may be summarized as follows: Some critics complain of the method and scope of our provings; some of the method of recording symptoms; some of the volume of symptoms recorded; some of the lack of education on the part of the provers; while still others complain of a want of integrity in the work of many of the provers.

To the first we answer that, though many plans, as to method and scope of our provings, have been suggested, thus far not one has been sufficiently attractive or promising to secure the active co-operation of any large number of the members of the profession, nor, indeed, have these plans resulted in any appreciable amount of useful work from the few who have attempted to make provings upon such new lines. A study of regional and physiologic organic relationship of drug effects has been urged and attempted, but thus far, beyond a few new symptoms added to the old Hahnemannian schedules, and an occasional fairly good symptomatic schedule of some new drug, but little has been accomplished. In fact, but few of the newer pathogeneses compare favorably with those given us by Hahnemann in the Materia Medica Pura.

Admitting that it would prove interesting to have exhaustive physiologic provings from the larger doses, it is evident to the careful prescriber that unless the symptom register were made as complete and specific as are the older pathogeneses, the results would fail to aid the practitioner in the selection of the similimum. The fault found by this class of critics depends upon a wrong conception of the Hahnemannian method of prescribing. These critics should carefully study the Organon for method, and then strive to master the Materia Medica Pura.

The second class referred to may have some reasonable ground for contention, for we all must admit that the failure to secure the publication of the day-books of the provers constitutes a real misfortune. The schematic form into which these records were converted fails to give to the average student or practitioner a perfect picture of the drug, and to construct a perfect working pathogenesis from such schedules is work requiring the skill of a master in the art; the unaided beginner finds it a difficult if not an impossible task. Notwithstanding this however, I would suggest to this class of honest critics that, if instead of wasting time in finding fault, they were to make strenuous

effort at reproving many of the old antipsorics and polychrests they and our school would be the gainers and future generations would bless them for their labors. Let it be remembered that Hahnemann was unable to publish the voluminous day-books of the provers by reason of the great cost—the publishers refused to take the risk and he had not the funds necessary to such an undertaking. In these days of financial prosperity our critics, were they so minded, might reprove the older remedies and then publish the day-books of the provers, with such explanations and annotations as might be necessary to a correct understanding of the symptoms, thus completing the work as originally contemplated by Hahnemann.

As to the volume of symptoms recorded, it may be remarked that almost every physician, from Hahnemann down, has looked forward to the time when, in the language of Hering, the wheat may be separated from the tares. On a fly-leaf to Schussler, Hering wrote:

"When wheat is ripe for the harvest,
That time to adjudge will be best,
What for labor still must be spered,
What not, for destruction prepared."

The harvest time will come with the complete development of each pathogenesis in the form of prover's day-books, confirmed and purged of all impurities by the crucial test of practice.

To those who find fault with the education or intelligence of some of the provers, we regret to say, there exists some ground for valid complaint, but only as applied to later provings. This fault cannot be attributed to the Materia Medica Pura. If ever man were master of his profession, and especially of this branch of his profession, Hahnemann was that man. His work has stood the test of honest and intelligent investigation and practical application by educated and conscientious physicians during a century past, and not a single proving has been discredited in practice.

But little need be said in reply to the charge that dishonest provers have vitiated our Materia Medica; for while it is possible to conceive of hired provers being wilfully dishonest, it surely does seem incredible that any physician who voluntarily offers a proving to the profession, should be so lost to all sense of right and truth, as to wantonly attempt to deceive in a matter so vital to the interests of the sick. More especially is this true in view of the fact that detection must surely ensue and thereby his professional character must be permanently ruined. A few doubtful provings were published many years

ago, but they soon were discredited and discarded and their authors relegated to the shades.

Much then as we deplore the fact that some reason may have existed for this complaint, we feel assured that it has but slight bearing upon the subject today.

Every proving published by Hahnemann has stood the test which he himself demanded—the crucial test at the bedside of the sick. Every such proving received his personal, critical supervision, the supervision of master expert; the greatest master of the art of drug proving known in the history of medicine.

Why then these complaints? Where lies the real difficulty? How may such difficulty be met and overcome? These pertinent questions should receive our thoughtful consideration, that an early solution of the problem may be reached.

Long observation has convinced me that the besetting sin of the present day student is lack of reverence for authority. Now, much as I would advocate independence in thought, I as greatly deplore this modern spirit of independence in action on the part of the learner; an independence that leads to fruitless experiment and practically ignores the truths promulgated by masters in the past, setting aside the accumulated wisdom of generations for the novelty of the fancies of the present. Experimentation upon new lines is so much more attractive, so fascinating, that both time and energy may be fruitlessly sacrificed to the phantom of aimless empiricism.

The reaction against the subservient acceptance of the dictum of self-constituted authorities, so worthy in itself, has developed into such an antipathy to all control, that even the tyro has become assertive in the presence of the master. The spirit that leads to independent thought and action by the untrained and immature tends only toward error. Facts are misinterpreted, methods are derided and means are neglected, all from want of knowledge. Real advance is impossible, because there is no definite method, no developed ideal

Mastery in any field comes only through faithful service and the development of a power to command the use of methods for the attainment of definite ends. These requisites are not possible to all; all are not alike endowed. Some see only the surface of things, others discern the very soul thereof. The former may follow well; they never should attempt to lead; the latter are born leaders; they become true masters in their chosen field of work. Let the master guide and direct and the workman may do good service.

You ask where shall we find our remedy? I reply: Return to our first estate; study Hahnemann's writings in the light of the latest revelations of science and with confidence in the integrity of his work. Let the mind assume that reverential attitude that receives truth for truth's sake alone. Questioning all things, investigating all things, proving all things in the most logical, methodical and critical spirit; but denying nothing without proof. The scientific mind may, yea must, doubt, but it is the doubt that leads to investigation, not disbelief.

Let me pray you accept for honest, conscientious investigation and experiment the records given us by Hahnemann, remembering not only his challenge "machts nach," but heeding the accompanying injunction "machts recht nach."

Gain a comprehensive knowledge of the Materia Medica Pura and let this be coupled with an equally comprehensive knowledge of Hahnemann's method—so well defined and clearly elucidated in the Organon and the Chronic Diseases, then honestly employ the means and you may rest assured you will reach the desired end, the cure of the sick.

In studying Hahnemann's provings in the light of his method, you will soon learn to distinguish the marked peculiarities of the individual remedies. In other words, you will learn to know each remedy as an individual, not simply as a member of a class or family.

By way of illustration, let us briefly compare the sphere of action of those well-known polychrests, Nux vomica and Ignatia amara, contrasting the results obtained by allopathic investigators with those reached by the method employed by Hahnemann.

Reviewing the action of these drugs as given in standard allopathic works, we are impressed with the evident tendency to ignore the fact that each, by reason of its individuality, must produce certain and specific effects peculiar to itself. In fact, emphasis is laid upon their similarity, and the assumption is made that as the alkaloids in each are the same, except in their quantitative relationship, their action must also be the same; their use interchangeable. We are told that Nux vomica contains strychnine and brucine in combination with igasuric (or strychnine) acid; also the glucoside loganine, a yellow coloring matter, a concrete oil, gum, starch, wax and earthy phosphates; that Ignatia has chemically about the same composition, but yields a relatively greater proportion of the alkaloids, strychnine and brucine.

We are told that the action of Nux vomica is that of its principal

alkaloid, strychnine, and that *"strychnine represents its action fully."*

The physiologic action of the strychnine, as manifested upon man and the lower animals, is given in general terms, and the baldest therapeutic generalizations are based upon these generalized data. In fact, beyond the toxic effects of lethal doses but little is recorded whereby to determine the therapeutic field of action of either drug, and absolutely nothing is noted by which to differentiate the use of these drugs in the treatment of the sick.

True, we are told that they are most excellent stomach tonics, respiratory stimulants, cardiac tonics, etc., but of when and why to prefer the one or other, or even when to prefer either to another drug of the same class, scarcely a hint can be found.

The cardinal fault in all such investigations lies in the fact that no definite law of therapeutic drug action is acknowledged, or recognized, as possible. As a result of this attitude theory necessarily takes the place of fact, empiricism supplants law and inept art usurps the throne of science and reason.

For mere toxologic research no valid objection can be offered to the method referred to, but for the discovery of the therapeutic sphere of action of our remedial agents such methods not only are faulty, they are worthless.

How infinitely superior that developed and so faultlessly employed by Hahnemann. First, to determine the various possible modes of drug action against disease; then to ascertain under which of these modes curative results may best be obtained; and, lastly, to secure a correct and comprehensive knowledge of the power and scope of action of each drug.

On this latter point Hahnemann says: "There is no other safe or more natural method of discovering the effects of medicines on the health of man than by trying them separately and singly in moderate quantity upon healthy individuals and observing what changes they effect in the mental and physical state; that is to say, what elements of disease these substances are capable of producing."

In accordance with this method, Hahnemann proved Nux vomica, which, as recorded in the Materia Medica Pura, is credited with 1,198 symptoms—evidences of mental and physical changes from health attributable to the action of the drug; and Ignatia amara, which has a record of 620 symptoms. An analysis of these provings will convince any unprejudiced student of Materia Medica of the vast superiority of Hahnemann's method.

In regard to the employment of these records as guides to the selection of the curative remedy, Hahnemann says: "In the search for the homœopathic specific remedy, that is, in this comparison of the totality of the symptoms of the natural diseases with the lists of sympoms of our proved remedies, that among these we may find one corresponding to the symptoms of the disease, we are especially and almost exclusively to note the symptoms and signs that are *striking, singular, extraordinary and peculiar (characteristic)*, for to those must similar symptoms from among those caused by the drug correspond, in order to constitute it the remedy most suitable to the cure."

It will be noted that Nux vomica and Ignatia have many symptoms in common, showing, what chemistry confirms, that in material composition they are very similar; nevertheless, even a cursory examination of the pathogeneses of these two remedies will show a marked dissimilarity. This is especially noticeable in the mental symptoms; thus, Nux vomica is characterized by a fiery, excitable disposition, fault-finding and moroseness. Oversensitiveness to external impressions, such as noise, odors, light. Light and music are unbearable. Nux vomica frequently is indicated in conditions following dissipation, especially abdominal sufferings and constipation. Should delirium supervene in such cases we will find great oversensitiveness, nervous excitability and malicious vehemence. The Ignatia patient, on the contrary, manifests a taciturn spirit, with continuous sad thoughts and a tearful introspectiveness. Quiet grief is characteristic. The moods are changeable, from jesting and laughter to sadness and shedding of tears. The slightest contradiction irritates, but when irritated the disposition to quiet offense markedly distingushes it from the Nux vomica, with its vehement outbursts of temper. Nux vomica is typical of the most cantankerous whisky dyspeptic, whereas Ignatia represent the quiet, gentle, though capricious, neurotic.

The headaches of Nux vomica and Ignatia are in many respects very similar, nevertheless several distinguishing features may readily be noted; thus, the Nux vomica pains are congestive in type, tensive, pressing or compressive in character; whereas the characteristic Ignatia pain is piercing, as if a nail were driven out through the side of the head; or, it may be described as a boring pain in a small spot. Nux vomica has a similar symptom, but the direction of the pain is the reverse of the Ignatia.

Again, the gastric symptoms, though very similar in these reme-

dies, present some clearly marked differences; thus, the Nux vomica has a sense of fullness and distention in the stomach and abdomen; whereas Ignatia is characterized by a sensation of weakness (sinking) in the pit of the stomach. True, a sense of fullness is also observed in the Ignatia, but it is invariably accompanied by a nervous, anxious (sinking) feeling, referred to the præcordia.

We might consume much time comparing the action of these two drugs upon the various functions, as expressed in the symptoms of our provings, but the few examples cited will afford ample illustration of the importance of thorough and exhaustive provings of our remedies upon the healthy human body, for in this way alone can we acquire adequate knowledge of the individual peculiarities of each. In this way alone can we demonstrate the fact that, though two dies may be nearly related botanically or chemically, they cannot, homœopathically, be employed interchangeably. In the language of Hahnemann, "the great Creator of the universe has implanted in every medicament *a constant rule of action;* to each he has given *peculiar, specific, certain powers* which are of the most constant and unvarying character."

With these points in view, let me urge upon the members of this society a renewed interest in our Materia Medica, an increased confidence in the Hahnemannian provings, and a greater fealty to the cause of Homœopathy in its purity. Constantly striving toward that goal which should be the aim and ambition of every true physician—*Curative*, not simply palliative medicine.

DISCUSSION.

Dr. C. S. Middleton: The opening discussion of a paper, I suppose, has a twofold purpose, one either to agree with or expand the remarks, the other perhaps to criticise, or both. Believing along the same lines as Dr. Korndœrfer, I have nothing to criticise. Dr. Korndœrfer, being one of the older practitioners, has experienced the change that has taken place in the sentiment and practice of medicine in the past few years. It sounds like a long time since forty-three years ago I began the practice of medicine. At that time we had to depend on the older provings, the Hahnemann provings, and it seems to me that the results we obtained at that time were certainly not inferior to those which we find now. When the later additions to the Materia Medica came we had a wealth of material,

which sometimes was embarrassing. Many of the drugs introduced had not been proven at all. They were recommended through empirical uses, and, of course, in many instances, were very useful and very substantial helps, but I want to add my voice to that of Dr. Korndœrfer to state the fact, which is a fact, that those of us who have practiced Homœopathy as a matter of principle, of reverence for the system, cannot get away from the truth that the old provings are of the most substantial character, and reliable in every way. Of course, there are some of them that have a little chaff among them. Much of that has been eliminated, I think; but the more recent remedies that have come for our help have not been as thoroughly proven, and while they are thoroughly reliable so far as we use them, they are not entirely satisfactory, and I trust that they will be reproven, as well as of the older remedies, those that may possibly need it. I want to call the attention of the society to the difference in the way of practicing medicine now among our own members, and to the fact that they are too much disposed to be led away by promises that are more fictitious than real. For commercial purposes drugs are brought to their notice, from which, it is said, we get and want to get results, but they are not curative, and not satisfactory to those of us who adhere to the strict Hahnemannian desire to be good homœopathic physicians. I could not criticise the paper if I wanted to, because it is too much in my own line of belief.

Dr. Charles Mohr: I want to reiterate what I said a little while ago, that is, that the reproving of the old Hahnemann remedies could be undertaken justifiably, because it will take lots of time and money to convince those who criticise homœopathic methods and homœopathic Materia Medica, and I am very glad Dr. Korndœrfer brought this question before us in the way he did, because I doubt very much whether many of the practitoners of Homœopathy to-day possess the Materia Medica Pura of Hahnemann. I will venture to say that if you take a hundred recent graduates from our homœopathic schools all over this country, you will probably find very few who possess a copy of the Materia Medica Pura, and the rest have nothing more than complications or quiz compends, with all the errors that they contain, and that is wherein our school makes a mistake. You will find if you study these works, the compilations and compends, that the errors made by individual practitioners are found in them rather than in the Hahnemann Materia Medica Pura, because every individual thinks he knows a good deal more than he does, or knows it

all, as the common expression has it, and if he has some experience it is found to go into that compilation as something that has been verified to his satisfaction, and not always verified to the satisfaction of everybody else, and so all the Materia Medicas, I believe, without any exception, excepting the Hahnemann Materia Medica Pura, are fuller of errors than is that original work. Dr. Korndœrfer and I have studied together. I, too, have practiced a good many years, and there is scarcely a week that I do not find is necessary to compare the symptoms of patients with the symptoms recorded, not in any recent text-book, not in any quiz compends, not in any little work on therapeutics which proposes to give you an outline of the symptoms, progress, history, results and cycle of any given disease, we will say pneumonia. In it the author will say Aconite is good in the beginning. Bryonia may be tried; Veratrum viride, according to some authorities, is better than Bryonia, and so on. That is all they give. That is wherein they make a mistake. Sometimes it is a missing link or a thread that will enable you to determine whether you have found the similar remedy to a disease to be treated. That missing thread you will find in the Materia Medica Pura of Hahnemann, although he did not give us the day-books of the provers, which of course, is to be regretted. However, Dr. Korndœrfer explained very well why the day-books were not published. If we make reprovings we will see that the day-books of the provers are published in extenso, so that the dependence of one group of phenomena on another group of phenomena can be traced out to a logical conclusion. That will be one thing gained. Then when we make a reporting of those reprovings it will be simply an index to the larger work. The profession of medicinne, then, I think, will have something on which they can rely. I stand here to heartily endorse the position Dr. Korndœrfer has taken, and I do wish for the influence which we can let go out among the younger practitioners of Homœopathy. Let them study the Materia Medica as Hahnemann studied it, or try to at least, and we will get assistance and make adherents more than we ever dreamed of.

Dr. J. C. Guernsey: I have felt for a long time that there was a great deal of unnecessary talk and fuss and worry about reproving. I think the good old provings that established Homœopathy, the provings from which we learned our Materia Medica, are good enough for all practical purposes. I believe in old wine, old friends and old provings, and instead of reproving I would reprint. I

would not go, perhaps, to the extent of the elaborate scheme of reproving, which is proposed, but I would reprint the good old Materia Medica Pura, and spend money in that way; for certainly the truth of those provings has been confirmed over and over again, and I believe they are true. I believe we got the true inner spirit: the curative acting spirit of the drugs came to us better from those old masters than we get now, and I am afraid of reprovings but I am not afraid to reprint the old provings.

Dr. W. G. Dietz: The point so excellently brought out by Dr. Korndoerfer in his paper is the lack of true Homœopathy to-day. It is not a question of reproving but the lack of Homœopathy in our meetings. There was only one paper read that pertained to Homœopathy, *per se*, and what is the cause? What is the reason? There are various reasons that have brought about this result. In the first place, in the early days, in the pioneer days, and we may say 30, 40 or 50 years ago, a man who took up Homœopathy, as a rule, became an enthusaist. Homœopathic colleges in those days did not teach so much about biology, because they did not know much about it, but the science that was taught was homœopathic from center to circumference. It did not make so much difference in anatomy, but every other teacher in the old institution on Filbert street was a homœopathist to the core, and the teaching was strictly homœopathic. The men that went out in those days generally stuck to the homœopathic system, and results were generally satisfactory. The trouble about Homœopathy is that it takes a great deal more time and a great deal more labor than the average man is willing to bestow upon it, and as there is no royal road to knowledge, so there is no royal road to acquiring the homœopathic Materia Medica, and the philosophy of Homœopathy as elucidated in the Organon of Hahnemann. Very few possess the Materia Medica Pura. It has been said it is altogether too large. I have more than once taken Allen's Encyclopædia, and have been enabled to find my remedy in that voluminous work when I was foiled in my efforts by every other means, the guiding symptoms not excepted. Another great cause of failure in Homœopathy is the fact that, I will not say enemies, but those who are opposed to strictly homœopathic treatment, deride symptom covering, and that is true criticism. The mere covering of a symptom has been a great cause of failure, and Hahnemann taught from the very beginning that the remedy should not be so much adapted to any particular local symptom as to the individuality of

the patient; in other words, that the individuality of the remedy and the individuality of the patient should correspond as nearly as possible, just as Dr. Korndorfer has brought out in his comparison of Ignatia and Nux vomica. We sometimes read of cases where remedies have been used on account of a single symptom, and used with failure in trying to combat diseases which had only a most superficial resemblance to the remedy, where the underlying condition was absolutely contrary to it. There was nothing else to be expected but failure. Calomel has been given for certain symptoms that were very superficial in a case of pneumonia in the third stage. Of course, the remedy proved of no value. Where the remedy corresponds to the individuality of the patient, where the remedy and the patient correspond, I think that we always will have a good result. There will be failures of necessity, but the nearer we come to the truth, as elucidated by Hahnemann, the nearer we come to having the results that he had.

Dr. Aug. Korndorfer, Sr.: I only want to emphasize one point, and that is the mistake which is so commonly made by our physicians in the matching of the minor symptoms to the neglect of the major, in not seeking to adapt the remedy by reason of its peculiar and characteristic symptoms that are found in the case and in the remedy combined. There is where the greatest number of failures come, and the point that requires most thoroughly to be corrected, a study of our remedies that the peculiarity of the remedy may be known, by which it is distinguishable from all other remedies. When that is accomplished in our provings and in our studies of those provings, then, and only then, will we be successful practitioners of curative medicine.

LOYALTY TO THE PHARMACOPŒIA.

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Prelude.

A few words by way of introduction to this paper. A pharmacopœia is an absolute necessity to a school of medicine, and there must be necesarily but one such work. The homœopathic pharmacopœia is only designed as a guide for remedies when applied homœopathically.

There are some members of the homœopathic profession who would transpose and emphasize the last part of official definition of a homœopathic physician, viz.: "All that pertains to the great field of medical learning is his by tradition, by inheritance, by right," and to whom the first sentence of the definition has practically little force, "a homœopathic physician is one who adds to his knowledge of medicine a special knowledge of homœopathic therapeutics and observes the law of similars." Such men have little interest in the homœopathic pharmacopœia, as most of their prescribing is according to old school sources, and should be based upon the United States Pharmacopœia.

To those who place homœopathic prescribing first, and who believe that the principle of similia is destined to be recognized as the greatest therapeutic law, and who are willing and anxious to aid in that recognition by a reproving and restatement of the homœopathic Materia Medica conducted with all the niceties of modern medical methods, a homœopathic pharmacopœia becomes a *sine qua non*, and such a pharmacopœia must in itself have recognized scientific value in accordance with the latest developments in chemistry and pharmacy.

The degree of interest shown in the new revision of the United States Pharmacopœia, which is to appear about October first, prompts us to a comparison with the lack of interest taken in our own standard—the Homœopathic Pharmacopœia of the United States.

If the dominant school with no great guiding principle in therapeutics carefully guards its pharmacopœia so as to secure uniformity of method and strength in medicinal preparations (in the new revision tinctures will be 10 or 12 per cent.), how much more should the new school with its single guiding principle—the law of similia—require adherence to a uniform scientific pharmacopœia?

Seven years ago (June, 1897) the American Institute of Homœopathy, by its official action, gave to the homœopathic profession in the United States its first pharmacopœia. The work was a credit to our school of medicine, and was highly commended for its scientific value. Such errors as were inseparable from its first appearance were subsequently corrected, and its present title was adopted.

For years previous to the preparation of this work, the American Institute had realized that the pharmacy of Homœopathy was in an unscientific state, and that to elucidate the principle of similia as a

scientific law of cure, required uniformity and accuracy in all that entered into the demonstration.

It, therefore, entered upon the work by appointing a committee of physicians and pharmacists, and after years of labor the pharmacopœia was finally presented for adoption.

After these years it is surely pertinent to inquire: What is the attitude of the profession towards it, and do our pharmacists conform to it in the preparation of our remedies?

To the first question the answer may be summed up by the word indifference, and this has necessarily affected the pharmacists. Such indifference is surely the result of ignorance of the value of a pharmacopœia in comparison with the loose individual methods that had previously prevailed.

Some pharmacists do not seem to have appreciated the fact that until June, 1897, the homœopathic profession in the United States had no pharmacopœia. This is shown in the title of an otherwise admirable paper, "The Old and New Pharmacopœias Compared," by Roscoe L. Coffin, in the December, 1903, Medical Century. This writer in an able manner shows the superiority of the homœopathic pharmacopœia of the United States, but he makes the mistake of comparing it with an unofficial book which he dignifies by calling it the old pharmacopœia.

A pharmacopœia is defined as an *official* publication containing a list of the articles of the Materia Medica, with their characters, tests for determining their purity and dose to be administered.

The essential part of the definition is that a pharmacopœia is an official publication. Other works appear from time to time, such as dispensatories and so-called pharmacopœias, but these are either commentaries and adjuncts to the pharmacopœia (such are the relations of the National and United States Dispensatories to the United States Pharmacopœia), or they are private works such as the American Homœopathic Pharmacopœia, which exploits the methods in use by one of the largest homœopathic pharmacies in the preparation of its medicines previous to the advent of the pharmacopœia.

The title of this last-named book is, therefore, misleading, and if the publishers consider that it still has a field of usefulness (and a new edition has just appeared), its title should be revised by omitting the word pharmacopœia.

If it were even allowable when the school in the United States had no pharmacopœia (and in the absence of official recognition it was

then an assumption), its use now, after the official adoption of the Homœopathic Pharmacopœia by the American Institute of Homœopathy and by the State societies of Massachusetts and Pennsylvania, is calculated to confuse students, and is against the best interests of our school.

A few words about the authority of the American Institute of Homœopathy. This, of course, is not of a legal character, but it should be no less potent because of its moral nature. As the national homœopathic society it represents the whole profession of the country. It certainly does this as well, if not better, than the American Medical Association represents the old school practitioner. Until June, 1904, membership in the American Institute was not dependent upon previous membership in a State society, but at this meeting an amendment to the By-Laws was adopted making eligibility for membership dependent upon membership in a State society, and also upon the applicant possessing the legal qualifications to practice in his or her State. In addition, the American Institute is partly a delegated body, as it admits delegates to all the privileges of membership (except voting and eligibility to office) from every association composed of more than fifty members from different States, from every State, county or local society, every hospital, asylum for the insane, dispensary, medical journal or medical college associated with the Institute.

The individual homœopathic practitioner may, therefore, consider that his interests are identical with those of the Institute, and that its conclusions bear the stamp of authority equally with those of the American Medical Association.

That the United States Government makes the United States Pharmacopœia its standard for the purchase of supplies for the army and navy would seem to give it national recognition, but this is evidently done for the protection of the service, and it is fair to infer that if Homœopathy were recognized in the army and navy the Homœopathic Pharmacopœia of the United States would be recognized as the standard for the purchase of its supplies.

The work adopted in June, 1897, by the American Institute was first called the "Pharmacopœia of the American Institute of Homœopathy." Subsequently, after revision, its title was changed to the more comprehensive one, "Homœopathic Pharmacopœia of the United States."

It thus became the official guide for all our pharmacists and physicians, and they should conform their methods to its requirements.

In particular, all tinctures and triturations not made as it directs should be known as irregular, and any attempt to exploit such preparations as superior to those of the pharmacopœia, should be considered as inimical to the best interests of our school.

It would seem that seven years were ample time in which a pharmacy could rearrange its methods in accordance with those of the pharmacopœia. This is practically the demand of the profession, as expressed in the action of its national body in adopting it as the standard.

Physicians should know that nearly all tinctures are made one-tenth drug strength, and that they are to be marked θ or the 1x dilution of the crude substance.

This is a marked advance over the old nomenclature, where the tincture was considered as unity and the 1x dilution was made from it. It is certainly more exact, and hence more scientific to know that the 2x dilution is the one one-hundredth dilution of the crude substance, than that it is the second dilution of a tincture. The 1x dilution, therefore, has passed out of use in homœopathic pharmacy, and it should not be used by physicians in their writings unless the statement is made that the mother tincture is so designated.

It is important for the purpose of an uniform, scientific literature, that physicians should conform to the pharmacopœia on this point.

Several works have appeared since the publication of the pharmacopœia in which the authors give the strength of remedies used, and where the 1x dilution is still mentioned as prepared from the tincture. One of these (an otherwise admirable work on practice) is by a former member of the committee on pharmacopœia.

L. H. Witte, in his published lectures, entitled "Essentials in Pharmaceutics," delivered before the Cleveland Homœopathic Medical College in 1901-'02, after defining a pharmacopœia as "a book for the use of pharmacists and apothecaries describing the preparation of medicines as determined upon by a body of physicians with and sometimes without the aid of pharmacists," commits the error of giving equal rank to the American Homœopathic Pharmacopœia, while at the same time he admits that it "is published by Boericke & Tafel as a private enterprise."

F. O. Ernesty in his lectures on Homœopathic Pharmacology in the New York Medical College and Hospital for Women, published in

1899, makes a similar mistake. He says: "The Pharmacopœia Polyglottica of Germany and the American Homœopathic Pharmacopœia base their methods of making tinctures on the methods and rules founded by Hahnemann, and the same have been adhered to and fully explained in these lectures, but a recent publication issued under the auspices of a committee appointed by the American Institute of Homœopathy advocates new methods for making mother tinctures." These new methods, however, cannot be very extensive, for on the next page he says, "aside from this variance in making the mother tinctures to represent one part drug power in ten parts of finished tincture (corresponding to 1x dil.), the other processes and manipulations of the Institute pharmacopœia agree with those pharmacopœias just mentioned." In regard to those just mentioned Schwabe's Pharmacopœia Polyglottica had some right to be called a pharmacopœia through its endorsement by the Homœopathic Central Union of Germany. It has since been superseded by the official German pharmacopœia prepared by a commission appointed by the government. The American book, which is founded upon Schwabe, has no such right as it has had no official recognition.

In spite of this fact the editor of one of our prominent journals in reviewing a new edition of the American Homœopathic Pharmacopœia (see Medical Century, June, 1904) calls it "our old and standard work." He places his judgment against that of the American Institute also when he says "we believe this volume is more practical for the physician," and then he goes on to say that many physicians make their own tinctures, and that for them the methods of the Institute Pharmacopœia are complicated in comparison with the simple, old-fashioned way of this book. He uses Sanguinaria as an example of a tincture so prepared, and draws a picture of a doctor jumping from his buggy to gather the roots. He dismisses all the labor and work of the Institute to secure uniform scientific preparations with this statement, "What difference does it make to him whether the tincture thus made is of 1-10th power because some other tincture is that strength? He makes his tincture according to the old plan; true, it is 1-6th drug strength, but he does not bother himself about that. He knows that he has made a nice clear tincture, and he prescribes it with confidence."

The editor closes his review with the statement, "we know at least one pharmacist who used the Institute Pharmacopœia and who abandoned it for the reason that its methods were too complicated,

and that the results were no better, if as good, as by the methods advocated by this old reliable pharmacopœia."

It is not the purpose of this paper at this late date to defend the Homœopathic Pharmacopœia of the United States. It needs no defence, for it has received well-nigh universal commendation from high scientific sources, and such errors as must necessarily have occurred in the first edition have been long since recognized and nearly all have been corrected.

This review, however, showing such disloyalty to the standard deserves a passing notice. Does the writer show any appreciation of scientific pharmaceutical methods? Any strength of tincture will do. Our editor says: "He knows he has made a nice clear tincture and he prescribes it with confidence." Can we afford to let such loose statements go unchallenged? Can we ever have a scientifically reproven Materia Medica based upon such unscientific pharmacy? Are not these remarks on a par with those attributed to the same writer, "that it might have been better not to have used the decimal scale in preparing triturations because physicians now use the 3x who would have used the 3d centesimal, had the Hahnemannian scale alone been available. Here again is no appreciation of the decimal system of Dr. Hering, which secures more thorough trituration, and, therefore, better pharmaceutical products.

In this review the homœopathic pharmacopœia is spoken of three times as the Institute pharmacopœia, not once by its proper title. Thus the writer emphasizes his spirit of disloyalty. He says that it is too complicated for the physician in the country who makes his own tinctures, and that at least one pharmacist abandoned it for the same reason.

It is a fact that accuracy cannot always be obtained in the easiest manner. The method by which the uniform strength of one in ten of fresh and dried plant tinctures is secured may at first seem to be complicated, but as the formula for each drug has been worked out and is appended to it there should be no difficulty in its practical use.

It is the business of the homœopathic pharmacist to endeavor to perfect the art of preparing homœopathic remedies according to the exact and uniform method furnished by the pharmacopœia.

Therapeutic results may be obtained by various means. They will follow the use of tinctures of very different drug strengths or from chewing a fresh plant by the roadside, or the use of a homely decoction made over the kitchen fire. The pharmacist, however, is

not to be influenced by these facts. His art is founded upon chemical science, and it is his duty to prepare the remedies in accordance with its best principles.

While as intimated above, therapeutic effects may be obtained from preparations of different strengths, it would be well in all future provings to prepare the substance according to the methods and strengths used for similar substances that are in the pharmacopœia. There will then be no change whatever required when they take their places in the work among the other proven remedies. This is offered as a suggestion to the newly organized institute for drug proving. It is one of the details that will help to make the new provings more exact and uniform.

Not only should every physician and pharmacist be loyal to the Homœopathic Pharmacopœia of the United States as the sole standard for the preparation of homœopathic medicines in the United States, but the American Institute at its late meeting (June, 1904) passed a resolution recommending it as the basis for an International Homœopathic Pharmacopœia.

Thus advanced ground has been taken looking forward to the welding together of all the followers of Hahnemann upon the basis of an uniform, scientific pharmacy upon which will be reared a re-proven, restated Materia Medica. Thus the principle of similia will receive that demonstration which will carry conviction to many who now stand aloof, and the great truths of Homœopathy be further advanced toward that universal recognition which will mark the real attainment of a scientific therapeutics.

DISCUSSION.

Dr. Chas. Mohr: It seems to me that the statements made by Dr. Carmichael in his paper are so plain that all must endorse every word of it. I think the fact that this homœopathic pharmacopœia of the United States is not conformed to by our pharmacists nor by our physicians is one reason why Homœopathy has not in the last decade advanced as rapidly as its merits warrant. Years and years ago when the old war horses were endeavoring to the best of their ability to bring about a work just such as this is, to insure uniformity in the preparation of all our medicines (and they worked for years without any avail), the American Institute took up this question, and now we have an official pharmacopœia to which we should all sub-

scribe, and which should be used by all pharmacists, all physicians and all students of the homœopathic method, in order to secure the uniformity which is essential to the spirit of our doctrine. I want to say just here that seems essential because we know that many of our drugs are bought in the form of tinctures from other than homœopathic pharmacists, and are used largely by the practitioners of Homœopathy, and then they wonder why it is that they do not get the results that are claimed for medicines when they are prescribed upon the principle of similia. I believe that is one of the reasons that Homœopathy to such a large extent has been sidetracked. I think the time has arrived when we all ought to agree to abide by the methods outlined in this standard work. The Pennsylvania State Society has already adopted it, and I think it is all the more essential just now that it should receive the support of every homœopathic practitioner in the United States, because of the effort which is going to be made to reprove some of our drugs and prove drugs not yet proved at all, but largely used by practitioners of medicine, whether they call themselves homœopathists or not. This brings me to say that personally I do not think it is necessary to make reproving of our polychrests and of our well-known homœopathic medicines, used for the last century, excepting it may be to reprove them in order to satisfy our specialists and our surgeons, who have been largely instrumental in sidetracking Homœopathy. If we can take these drugs and reprove them, reprove a tincture and evolutions from that tincture that are always the same in quality and quantity, then it is possible we may get these specialists of our school to prescribe these medicines when they meet with diseases that they are treating according to their special method; and yet they may use, as many of them do, medicines prepared by other than homœopathic pharmacists and recommended by authorities in the old school among the specialists. I believe that a fact, of more importance than reproving our old drugs, is that we ought to prove the newer drugs, and we ought to prove only such as can be stamped as being standard preparations, so that when a man or woman in the practice of medicine buys a tincture, or dilution, or trituration from any pharmacist no matter where he is, in Maine or California, or intermediate places, he knows he is getting the same thing every time. That is the only way in which this matter can be established to the satisfaction of ourselves, and to the satisfaction of the profession of medicine at large, from whom we are sure to gain adherents to the homœopathic method if we do this thing. The essay-

ist has mentioned the fact in his paper that the institute of drug proving of the American Institute of Homœopathy has been organized and is about raising money for the purpose of proving and making reprovings. Those of you who are members of the American Institute of Homœopathy have already received a circular letter and an appeal to further this scientific work. I do not think that there is anything that the homœopathic profession in the United States can undertake that will yield so much fruit as to be thoroughly in accord and give all their strength and all the financial support required to make this proving and reproving satisfy every man and woman in the homœopathic profession, and to be of great use also to the members of the old school who lean towards Homœopathy and want to know whether we have a Materia Medica that is reliable. This, of course, means work. It means money. I do not think it will in a single instance subvert Homœopathy, but I believe it will be a great lever in bringing Homœopathy before the profession of medicine as it has never been done before, and if that is so, then Homœopathy must grow. We have appealed to every member of the American Institute of Homœopathy to support this work. We have appealed to journalists to support it. We have appealed to affiliated associations or societies to support it. I want to say to the members of the State Society of Pennsylvania that the trustees look to this great body of medical men and women for a hearty support in this work, and I would like to see this society in some form or other endorse this work and promise to give it all the support that is possible, not only in the way of help in securing provers and making provings, but also in furnishing the means by which this work can be carried out successfully.

Dr. Williams: I cannot say I quite agree with the portion of the remarks of Dr. Mohr regarding the reproving of some of our older remedies, because I think among the symptoms our Materia Medica give as produced by our older remedies there is an immense amount of chaff. Therefore, I think they ought to be reproved as well as newer remedies proved. In regard to this work which is being inaugurated by the American Institute of Homœopathy, I think it is one we should all support. I think it is a valuable work and one that every physician should take hold of, heart and soul. In regard to pure remedies, this is a matter of which I have been thinking a long time. I had occasion not a great while ago to use some belladonna. The druggists in our town usually keep a supply in tablets. There

is one druggist who gets homœopathic remedies from one manufacturing firm, another gets them from a second, and another gets them from a third. Four druggists keep homœopathic remedies there for the accommodation of homœopathic physicians in the town. I sent my man, who is a blundering sort of fellow, to get me an ounce of tincture of belladonna. He stopped at all four drug stores and brought me four ounces, and on comparing those four ounces, every one of them was of a different color. There was no uniformity about them at all. Of course, I used that made by the firm in whom I have the most faith. I think we, as physicians, ought to be careful to buy our remedies only from those firms that we know prepare the remedies according to the homœopathic pharmacopœia. I think if we were careful in that matter, and did not buy our medicines indiscriminantly, as a great many physicians do, we would have no trouble. We could then rely on the medicines we got.

DR. T. H. CARMICHAEL: I might say something in reference to a practical point about those different tinctures. Tinctures vary in color according to the time of the year in which the plant was gathered, according to the locality from which the plant was obtained, and so forth. If the tincture was belladonna that should not have varied, because it is an imported tincture, and in all probability imported tinctures are obtained from one or two firms in Germany, who we presume collect them at the same time, the proper time mentioned by the pharmacopœia. In reference to our American tinctures, it would of course be accounted for in a measure by the different methods in which they are made here. It would almost seem as if the belladonna must have been diluted by different pharmacists to produce a change of color. A dark color, however, is no test of the strength of a tincture. What is a tincture? A tincture is a solution of the soluble constituents of a given mass of drug extracted by means of a menstruum which is alcoholic to a greater or less degree in accordance with the peculiarities of the drug. There is one thing that not one man out of ten ever appreciates, and that is that the soluble constituents of the plant must be exhausted or you do not have a tincture. Take, for instance, a little mass of the drug of any plant. Take a mass of Nux vomica, for example, say four inches square of powdered Nux vomica root that you wish to make a tincture of. You have not a tincture of Nux vomica unless you have extracted all the soluble matter of that mass of Nux vomica. In other words, you must know your menstruum. To begin with, you must

take sufficient menstruum, so that when you pour it into that mass the percolate which comes through last is almost the same as the first. Then you know you have exhausted the mass of Nux vomica, and you know what you have is the tincture of nux vomica. If you pass through one-tenth of that menstruum and stop there and say, "I will have a strong tincture of nux vomica," you have not a tincture in the pharmaceutical sense of the word, nor in the natural sense of the word, because in many instances you carry through with the beginning of this solution a mass of matter which masks your tincture. You are not getting any greater strength by stopping there, although you get a greater color than you would if you continued throughout. A tincture is not a fluid extract. Some men use fluid extracts in place of tinctures. They are not only in some instances not any stronger, but they are not nearly as efficient, because, being made by the aid of heat in nearly all instances, the active principles are destroyed in the process and you do not get as active a preparation. If it were not for this idea among men that they are being, so to speak', cheated unless they get the strongest possible tincture, and are very frequently imposed upon and get weaker preparations which look stronger, I think the way would be clearer for the adoption of a uniform scientific method in the preparation of our drugs.

CALCAREA CARB., KALI CARB. AND GRAPHITES.

EDWARD CRANCH, PH. B., M. D., ERIE.

Here is a group of three drugs rarely if ever used by the old school, except that they use lime water as an antacid, and carbonate of potash as a saline diuretic, or in medicated baths. Graphite, as used by moulders, is known by them to both cause and cure certain forms of eczema. In the finely divided doses of Homœopathy, however, they all become agents of the greatest possibly efficiency in the treatment of a wide variety of complaints, to some of which we will now direct our attention.

All three, Calc. carb., Kali carb. and Graphites, strongly affect the general nutrition of the body, as all carbonates do, each in its own manner. Yet although capable of deep and long sustained action, these usually "chronic" remedies are capable of combating with suffi-

cient celerity some of the most dangerous conditions in acute diseases.

Take first the Calcarea, picked for us out of the middle layer of the oyster shell, hence an organic product, not merely a precipitate, though how it differs from the purely chemical product in physiologic action is by no means clear, and the difference, if any, may readily be ignored.

The Calcarea constitution is fair, fat and flabby, large headed, dull, sometimes apprehensive, pale and potbellied, easily and rapidly emaciated in sickness, full of acid secretions, quickly affected by wet and cold surroundings or contact, as in workers in water, dough, or wet clay, the head and feet inclined to sweat, warm on the head, cold on the feet, as if wearing damp stocking, the nutrition due to the body leaves it too rapidly and readily, passing off by the emunctories, with resulting depletion of strength.

Hence we find it of use in rachitic, scorbutic, tuberculous, and miasmatic subjects, and not of so much value in subjects of acute contagious diseases, unless these are complicated from within, as it were, by one or other of the chronic diatheses. Being of value in inherited miasms, its best subjects are often children in the earlier years of life, and in them its comparatively frequent exhibition, when indicated, is more useful than in adults, in whom, if used too freely, old miasms that had happily become latent may be aroused.

Kali carb., on the contrary, suits the aged better than the young; in fact, this is one of the most striking contrasts that can be brought up between the two; for both are susceptible to cold, both are inclined to extremes of plumpness and emaciation; but Kali appeals to the uses of the aged, by its weakness, stiffness and chronic backaches, its early waking, and its tendencies to lung complaints and dropsies.

Its action is on all tissues, but largely on the nerves, especially the trophic and regular spinal nerves, whence we have its widely distributed, needle-like pains, its paralyses, and its general affinity for the sequelæ of previous pathological processes, rather than for what might be called original entries, or primary cases.

Graphites, which is more often thought of and used now than it was thirty years ago, at least so far as my own acquaintance and observation extend, is a supposedly pure carbon, generally with a slight admixture of iron, the influence of which makes it more useful in inflammations, and hence of wider range than either of the pure carbons, animal or vegetable.

Unlike the other two drugs of this paper, it leans less toward either infancy or old age, and more toward middle life, the "fair, fat and forty," of the poet and novelist. Here we have, in the sphere of Graphites, the later hysteria that accompanies the menopause; the erysipelas of high livers, the varicose veins and fatty heart of the toper, and the moist eczema of the lazy, all these and many more are cured very often by Graphites.

Yet years or size or previous conditions of pathology cannot keep us from using any one of these drugs if the general and special survey of any case calls for it. Here in this paper we can give only a few hints from experience.

As a part of the general carbonate character, these drugs all have marked aggravation from cold, all have an extensive action on the skin, mucous membranes and glandular structures, all have more or less of apprehensiveness and melancholia.

Calcarea leads away from this association by its greater affinity for bone tissue, for more rapid elimination of secretions and consequent loss of nutrition. Bone abscesses, large head and belly, cold and clammy feet, with great weariness in the evening, or on making any ascent, sweat of head, longing for eggs, acidity of all excretions, and aggravation from working in or about water or wet things, appetite for indigestible substances such as chalk and slate pencils, clubbing of finger tips, and strumous glandular swellings, especially about the neck, all these are especially good suggestive symptoms for Calcarea.

Some of the acute ailments which most often show complications calling for this drug, Calcarea, are diarrhœa, cystitis, cholelithiasis, gravel, morbid dentition, menorrhagia, ailments of pregnancy, blepharitis, conjunctivitis and ophthalmitis, meningitis, rheumatic fever, scarlet fever, mumps, boils and eczema.

Kali carb. leads more toward pulmonary disorders, sclesoses, paralyses, dropsies, neuraiglas and neuroses, nearly always to some secondary ailment, hence its list of acute affinities is much shorter, as it appears in practice. While aggravated by cold, it is not specially affected by dampness. In chronic diseases it may always be thought of for lung cavities, contracted kidney, irritable bladder with copious and clear urine, deafness, ozæna, sclerosis of the liver and of nerve tissue.

In acute diseases, it best meets neuralgia, rheumatism, headache, backache and acute dyspepsia. Any of these ailments readily becomes chronic.

Graphites distinguishes itself by its gummy, clear discharges, mostly from the skin, in eczemas and in slow healing wounds, in cold-sores, barber's itch, impetigo, etc. Given in the second or third trituration it will always aggravate, and should, therefore, like the other two drugs we are speaking of, be given not lower than the thirtieth centesimal. There is also with Graphites great weakness of the back, profuse leucorrhœa, great size and hardness of the alvine evacuation, cracked fingers and thickened nails, small tumors or old styes of the lid, and cracks in the canthi.

In acute ailments, it is of first importance in erysipelas, dyspepsia, hoarseness, crops of herpes, frequent attacks of hives and shingles.

Although these three remedies will not be as often called for as some others, none are clearer in their indications, nor more satisfactory in their performance.

THE PROPHYLACTIC POWER OF SOME DRUGS.

JOSEPH C. GUERNSEY, A. M., M. D., PHILADELPHIA.

The Hahnemannian Monthly for June, 1904, contains an interestingly instructive article by Willard Ide Pierce, M. D., entitled "Some Prophylactic Remedies." I quite agree with Dr. Pierce "that we cannot deny the assertion that a given patient would have remained immune from a certain disease even if no medicine had been taken . . . still if we meet with uniform success . . . . we are justified in believing that certain remedies do act as preventives in certain diseases and that we should use them."

Prophylactic, *i. e.*, preventive, treatment has been and now is too much neglected by physicians. The subject has been brought to our notice many times and in many ways only to find us slow to appreciate, to search for and to adopt preventive measures in the practice of medicine.

Hahnemann counseled the use of Belladonna as a preventive of scarlet fever, and Camphor as a preventive of cholera.

Jenner gave us vaccination, the prophylactic power of which has saved countless thousands of lives from death-dealing small-pox.

Korndoerfer promulgated the prophylactic power of an aqueous solution of *Potassium cyanide*, as a positive protection against the

spread of small-pox among the inmates of a house where it already existed.

The injection of diphtheritic antitoxin is asserted to immunize those coming in contact with diphtheria.

The Pasteur treatment claims to prevent rabies.

Every surgeon in the world practices prophylaxis! He calls it antisepsis; but that is only another term having the same meaning. He never makes a cut that he does not immediately apply his prophylactic—formaline, bichloride of mercury, boric acid, or some other germicide, to prevent the formation of pus and its consequences.

The obstetrician uses prophylactic measures with such success that the dread disease of our forefathers, known as "child-bed" fever, has been nearly exterminated.

Dunglison's *Medical Dictionary* defines hygiene to be prophylactic medicine.

When I speak of *prophylactic drugs* I mean those which I have found efficacious.

1. In totally preventing any appearance of a disease. 2. When administered at the very beginning of an illness, the symptoms are immediately extinguished. For then, acording to Hahnemann's *Organon*, Sec. 8, "when all the symptoms are extinguished, the disease is, at the same time, internally cured." 3. Remedies which destroy the tendency or predisposition to a recurrent disease (as *e. g.*, see below in Apis: its effect on styes).

My chief success with drugs given as prophylactic has been in their potentized form.

Aconite.—Exposure to dry, cold air. This exposure may be sitting in a dry, cold room, church or theatre, or a long drive on a dry, cold day, in the cars, a carriage or sleigh. Two or three doses of Aconite, about two hours apart, during or soon after such exposure, will prevent ill effects, such as cold, pneumonia, etc.

Apis.—In my hands, Apis 40m, has, with almost unfailing regularity, promptly cut short styes and felons, besides curing the tendency to their recurrence in patients who are subject to them—particularly the styes. In cases of felon I also direct the afflicted finger to be frequently held in water hot as can be borne. I have found Apis infinitely superior to Pulsatilla in styes, as a curative agent; as a check to an attack (*i. e.*, an extinguisher) at the very onset; as prophylactic against future attacks. I have not had any experience with Staphy-

sagria (that remedy *par excellence* for agonizing toothache: also severe pain in fresh, clean cut wounds) in the treatment of styes.

Argentum nit.—This remedy prevents ills arising from the excessive eating of candy and sugar generally during Christmas week or any other time.

Coffea[30].—Serves me well in preventing sleeplessenss, heart palpitation, etc., after drinking coffee at night.

Nux vomica.—It is always prudent to take some of this remedy to prevent gastric derangement (indigestion, headache, etc.) after a big meal has been stuffed into one; also after a late supper or after "a night with the boys," before going to bed.

Arnica.—Give this remedy immediately to any one who has received a severe blow—especially if on the head—or a fall, or one who has undergone severe muscular exertion as *e. g.* (unless contraindicated by special symptoms), *after parturition.* For twenty-five years I have made it a practice to give Arnica (high), a dose every two or three hours, for several hours, as soon as the baby is born, and my exemption from post partum sequelæ has been most satisfactory.

Arsenicum.—Dr. Ad. Lippe told me to use Arsenicum as a "seashore" remedy both to prevent the ills as well as to cure those caused by going to the sea shore.

I recently sent an old gentleman to Atlantic City, who said: "I love the sea shore and would like to go there, but it does not agree with me. I get asthma, diarrhœa, am chilly, etc. I am, therefore, compelled to remain inland every summer."

I gave him Arsenicum[30] several days before he started, and a supply to keep using after reaching there. To his surprise and pleasure he remained for several weeks with great comfort.

Baryta jod.—This remedy, brought to my notice by Dr. Wm. C. Goodno, has proved very efficacious in promptly extinguishing quinsy if taken when the first symptoms appear. I have used it only in the 2x potency, and it seems to overcome the predisposition to quinsy as well as check a threatened attack.

Belladonna.—With Belladonna I have very, very often extinguished a red, angry lump that was just beginning to throb, especially when located in the back of the neck. I am firmly convinced that very many, if not a large majority of boils and carbuncles can be prevented by the prompt exhibition of Belladonna. I use it in the 30th and 40m.

Bryonia.—The question so often asked and so frequently debated,

"Can typhoid fever be aborted?" should be answered "Yes," *provided* the proper prophlyactic measures are adopted at the very beginning of the disease. When typhoid fever is suspected, instantly put the patient to bed and keep him there; give only liquid diet, preferably milk; give Bryonia every two hours, gradually changing to three and four hours as improvement warrants, until symptoms are extinguished. I have experienced such satisfactory results from the above treatment that I believe in it most heartily.

China.—During or immediately after living in a malarial district it has seemed to me that China[30] has warded off "chills and fever."

Gelsemium.—Dr. Wm. C. Goodno advises the administration of Gelseminum θ, in one drop doses, every hour, at the very beginning of "a cold," as sure to break it up immediately.

Hypericum.—The late Henry N. Guernsey, M. D., claimed that this drug should always be given to a human being or a horse after a punctured wound, such as stepping upon a nail, etc., as preventive of lock-jaw. I have given it to my patients, and horses, in the above conditions, for many years.

Pulsatilla.—Our forefathers lauded this remedy as sure to prevent a mal-presentation in labor. They declared that, by giving it at the very onset of labor, the head would engage and that in due time a normal delivery would result. I have always used Pulsatilla in this manner, never lower than the 30th potency, and after an experience of several hundred confinement cases have seldom met with any presentation but the head; and, so far as I can now remember, it so happened that in cases of other presentation I had not been able to give the remedy early enough. I usually leave Pulsatilla at the house of a patient and direct her to take it "just as soon as labor pains set in," or when "the water breaks." If the remedy is taken, and it often is, for false pains, no sort of harm is done the patient, rather she is benefited. So the procedure is wholly permissible.

Rhus tox.—Always take this remedy after a sudden and a thorough drenching by a heavy shower of rain, or getting suddenly wet through in any way, as falling into the water unexpectedly, etc., especially if the wetting has occurred during perspiration.

DISCUSSION.

Dr. F. W. Boyer: The subject of prophylaxis is one that entered very much more into the consideration of a physician twenty years

ago than it does now, especially in the administration of potentized remedies. Of the newer remedies mentioned by Dr. Guernsey, Apis is something entirely new to me and possibly to many of us, in the application mentioned; it certainly is worth the trial. Staphysagria has given me a great deal of satisfaction in its administration in cases of stye and individuals who are liable to that affection. The Iodide of sulphur in the third decimal trituration is a remedy I have employed often where the tendency is to struma associated with frequent styes. The remedy which I have been in the habit of using most frequently in households where there is a child suering with diphtheria is carbolic acid; twenty drops of carbolic acid added to an ounce of glycerine, saturate the pellets therewith, and of the number thirty pellets give eight or ten at a dose several times a day. It is not homœopathic so far as its administration goes, but I will assure you it is very helpful. We do not need to speak additionally of that great boon, antitoxin. The diphtheria antitoxin, which we can rely on as a curative agent if used under precautionary conditions, is prophylactic. I have had some experience with tubercular antitoxin but the results were negative. Papers of this kind are practical. They bring to mind something that existed with us in times gone. We may have forgotten or neglected or not have been in the habit of using them again and again. Belladonna surely is an excellent remedy when administered sufficiently high. I mean the 15th or the 30th when I say high. I am very glad to congratulate Dr. Guernsey on the practical nature of his paper, and hope that he will try something on us again at another time.

Dr. Charles Moehr: I have believed for many years that any remedy that cures a disease when selected according to the principle *similia* may prove prophylactic to that disease. Of course, the difficulty comes in proving our position. There are some authorities who claim that *Belladonna* is not prophylactic of scarlet fever. It is so stated in some of our homœopathic works, and yet Hahnemann declared that *Belladonna* was a prophylactic in a certain variety of scarlet fever when it was given to children who were exposed to the contagion; I have demonstrated this for years to my satisfaction, yet I cannot prove it. But I want to call attention to a fact within my experience in the last few months. We have had an epidemic of scarlet fever in Philadelphia, especially in the suburbs in which I live. There was one young man attacked who died under old school treatment. His sister, a child about 7 years of age, was sent from the

house, did not contract the disease; it was supposed because she was not exposed to the poison. Within a few squares of that house were five children attacked successively because no measures were taken to prevent the infection, except such as were employed by the city health authorities. In contiguous houses where I was engaged to see two cases through, one boy 5 years old had the Sydenham variety of scarlet fever, such as we rarely see nowadays; the skin from head to foot was scarlet red and shining, with other typical *belladonna* symptoms. I isolated him, but two other children in the house who could not be removed from home, although the house was quarantined, received *Belladonna* in the third decimal dilution, three doses per day. Those children escaped scarlet fever, although never out of the house. In another nearby house, where a girl 7 years of age contracted scarlet fever, there was a girl 14 years of age, and the mother was very much exercised at the scarlet fever her child suffered from because she had never had the disease, and two servants, who were young girls, were half frightened and did not want to stay in the house. They all received what I call prophylactic doses of *belladonna* and did not contract scarlet fever. I repeat, I think it is a fact that if a remedy is indicated according to the principle *similia* to a given disease, that remedy may also act prophylactically in those who are subject to contagion. I want to say something in regard to *Staphysagria* in styes. I have occasionally found recurring styes were followed after awhile in certain subjects by what is called chalazion. I am treating a girl now to whom I am giving Staphysagria, and the tumor of the eyelid is disappearing. I have frequently used the remedy as a prophylactic in recurring styes, in order to prevent recurrence or the formation of chalazion. In regard to the abortion of typhoid fever with *Bryonia* or *Baptisia*, I always question the term "abortion of disease" because we cannot prove we have aborted a typical disease. We can only prove that a subject who had symptoms beginning like those of typhoid fever was given a certain medicine and did not develop the disease. In this case, of course, the remedy prevented what threatened to be a continued fever, but we cannot say it was abortive, as it may not have been typhoid fever at all. I want to say a word in regard to syphilis. We have been taught for some years that you must never give *Mercury* to any one until you have determined positively that the patient has syphilis. I give *Mercury* in minute doses to every man whom I *suspect* is a possible subject of syphilis. I think, although I cannot

prove it. *Mercury* when given properly in the beginning of such suspected disease, especially with a venereal sore, will prevent that subject from developing the syphilitic disease or at any rate will modify it. In regard to *Ledum*, I do not know how many times I have applied a drop of *Ledum palustre* tincture to a punctured wound or sting of an insect, in cases when it has not been applied would have been followed by the ordinary inflammation and adenopathy due to such wound. Of course, we make all these assertions, they are hard to prove, but what harm does it do any one for the homœopathic practitioner to apply these medicines when he has good reason to do it, either for the prophylaxis or cure of disease?

DR. W. G. DIETZ: I will commence with Belladonna as a prophylactic in scarlet fever. It is well known that the scarlet fever prevalent in the time of Hahnemann and during that whole century was the so-called scarlatina lævigata, the smooth scarlet fever, and there is no doubt that in those cases, and in those cases only, Belladonna is a true prophylactic; but it is not prophylactic in the so-called miliary form. Dr. Guernsey mentioned Hypericum as a remedy for punctured wounds. Hypericum is the remedy *par excellence* for all traumatism involving the terminal endings of nerve fibres, and especially in traumatism of the spinal cord, for concussions of the spine, or injuries which are unusually painful, where the suffering is out of all proportion to the injury inflicted, indicating clearly that there has been severe injury to the nerve ending. Hypericum is the remedy for more than punctured wounds. I always use Ledum in the 30th, and have never had a case that I remember where the patient stepped on a nail had any difficulty afterward. It may have been because the nail was made antiseptic before the patient stepped on it! After all, we cannot prove these things. If Ledum fails in these cases, do not forget Nitric acid, and please do not give it in the mother tincture. It is apt to disagree and you might not have proper results. Talking about styes, I would rather speak of the great prophylactic Pulsatilla, which has been a remedy used from the time of Hahnemann, and is still the routine standby. I want to refer to eye-strain. Eye-strain is the cause of styes in nineteen cases out of twenty. I stand here to be challenged on that question. Be sure you are right if you challenge me. Iodide of baryta, of course, has been given in the 2d decimal trituration for quinsy. I have used Baryta carb. as a prophylactic to persons who often have attacks of quinsy. I use it in the 30th potency, and give it on discs two or three times a day con-

tinually, and my results have been such that I want nothing else, because when people get quinsy every two or three weeks from the beginning of fall to the Fourth of July, and do that year after year, and you give Baryta carb., you then have the law of probability The law of probability is the only thing you have anyhow in these cases. Dr. Mohr may have given people Belladonna and they did not get scarlet fever and the Belladonna had nothing to do with it. The law of probability is that Belladonna had an inhibitive influence on the germ, or whatever the infective principle is that causes the disease, and the result was that the people did not get it.

Dr. C. S. Middleton: I am much pleased with Dr. Guernsey's paper, and can confirm many of his statements, especially in regard to the prophylactic virtues of Belladonna in scarlet fever. I have regarded three remedies as prophylactic against scarlet fever, Belladonna for the old-fashioned Sydenham, smooth, shining variety; Rhus tox. and Anacardium for the miliary forms where there is excessive itching and roughness of the skin—just as red as the other variety, but of a different character. I also have another remedy for tonsillitis. Many people who are getting sore throat will come to you promptly, even though accustomed to have quinsy from time to time when there is a *sticking sensation and a fishy taste*. I have recommended a good many of my patients who are predisposed to quinsy to take a little piece of saltpeter about the size of a grain of chicken corn, put in the mouth and let it trickle down the throat. That has proved apparently, "with the law of probability" in my favor, a prophylactic against quinsy.

Dr. T. H. Carmichael: I would like to add two remedies, one in colds. Somebody has said if you get a patient thoroughly chilled at the very beginning of a cold, give them Camphor mono-bromide in the first decimal trituration. I tried that and found it very efficacious giving about five or seven grains. Another remedy is Cocculus indicus for car sickness. I made a little reputation by using that in the third decimal dilution.

Dr. Longwell: There is one remedy I want to add for the prevention of quinsy, that is cold water. If anyone subject to quinsy will bathe the neck and chest as far as exposed to the weather every morning with cold water, he will never suffer from quinsy. That is from my own personal experience, because I had it about four times a year, and simply used cold water every morning, applied to the neck and chest, and have not had quinsy in six years.

REPORT OF THE

SECTION OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

A Few Remedies Rarely Prescribed in Diseases of the Eye, With Their Indications, by D. W. Harner, M. D.
Eye-Strain; Its Consequences and Treatment, by G. H. Haas, M. D.
A Few Points on Nasal Diseases, by Henry F. Schantz, M. D.
Some Reflexes from Eye-Strain, by J. W. Stitzel, M. D.
Report of Cases, by H. B. Ware, M. D.
Nasal Obstruction; Its Causes and Results, by H. S. Weaver, M. D.

A FEW REMEDIES RARELY PRESCRIBED IN DISEASES OF THE EYE WITH THEIR INDICATIONS.

D. W. HARNER, M. D., PHILADELPHIA.

While there is no doubt that the condition of the eye is a most important factor in the selection of the remdy, still we must not lose sight of the fact that the eye symptoms are very often the expression of a general constitutional cachexia, the remedy for which can only be found by a close examination of the individual.

The first remedy that I have selected is a very old one, and yet seldom prescribed, namely:

Ambra Grisea.—Under this remedy we find the following symptoms:

Pressure as if the eyes had been closed too tightly, or as if they were lying deep in the orbits, especially early in the morning. Lacerating in the eyes, a feeling as if dust were in them, with pressure. With or without lachrymation.

Burning, especially in the right eye and about the lids, itching of the lids as if a stye would form; around the eyes violent titillating. Inflammatory redness of the white of the eye, injected condition of the blood-vessels, dimness of the sight, as if looking through a fog or mist.

This remedy acts best on the so-called bilious or nervous bilious temperament.

Mephitis Putorius.—Pain in the eyes on turning them in certain directions, as if some foreign body had lodged in them; pain in eyes as from over exertion, pricking, stinging, and itching in eyes, heat and burning, a burning pressure, particularly morning and evening, stitches in the eyes as from needles. Redness of the conjunctiva, as if suffused with blood. Inability to read small print. The weakness of sight is generally accompanied with pain in the head and eyes. Letters become blurred and run together. Inflammation of eyes and lids, especially the right one.

Heat and burning of eyes, pressing on lids with burning of margins as if styes would form.

Asarum Europæum (Hazelwertz).—Introduced and proven by Hahnemann. Dry burning in eyelids and inner canthi, especially the left eye, with continual lachrymation.

Obscuration of sight. When reading sensation in eyes as if they would be pressed asunder.

Patient cannot read on account of aggravation from light. The eyes are inflamed, blear eyedness, redness of conjunctiva, with stinging and burning in canthi. Cold air is pleasant to eyes.

Sunshine, light and wind are intolerable. Painful feeling of dryness in eyes. Thickening of cornea. Sharp pain over left eye with running of tears; sensitiveness of sight.

Asthenopia accompanied by congestive headaches; eyes aggravated morning and evening when out doors in the heat and sunlight.

Relieved in middle of the day and by bathing in cold water. This remedy acts well on plethoric young people and on persons of nervous, excitable moods and on *alcoholics.*

Medorrhinum.—Feeling when eyes are closed as if they were being pulled out of head either to one side or other; when open, all things seem to flicker. A blur over objects. Numberless black or brown spots dancing on page while reading, sees objects double, things look very small, sees imaginary objects. If eyes are fixed on one object have a feeling as if they protruded, aching in eyeballs with pressure and heat in vertex with tendency to close eyes; neuralgic pain in eyes when closing them tightly. Continuous watering of eyes, great heat and sensation of sand under lids. Feeling of pain and irritation and sensation of sticks in eyes, lids and inner canthi; redness and dryness of lids. Congestion of sclerotic and sensation of a

cool wind blowing in eyes, especially the inner canthi. Ptosis of outer end of both upper lids, requiring an effort to open them. Swelling of upper lids, with soreness and smarting of edges. Marked tendency to irritation of edges of lids. A hardness of upper lids as if it had a cartilage in it. Itching of eyebrows, with falling of brows and lashes. Swelling under eyes.

Ammonium Muriaticum.—Sensation of a hammering or pushing over the margin of right orbit. Lacerating in the upper border of the right eye, in the external canthus of the eye, in the eyeballs. Burning of the eyes, especially of the canthus after rising, with intolerance of light. The eyes burn at night with profuse lachrymation. Eyes gum together in the morning with twitching of the lids of the eyes. Lachrymation soon after rising, redness of the whites of the eyes and itching. Small vesicles on the whites of the eyes. Mist before the eyes, worse in the open air. Yellow spots before the eyes when reading or looking into the open. Optical illusions in dark colors, flying spots and points before the eyes, muscæ volitantes during day and by artificial light; eyes look dull and have a peculiar glassy or watery shine, even eyes are yellow; useful in capsular cataract. The remedy seems best suited to people who are fat and sluggish, or if you see a person with a fat body and thin legs always think of Ammo. mur.

Antimonium Tartaricum.—The eyes have a tired, weary feeling, want to be closed, bruised feeling of the eyeballs, particularly on touching them. Tearing pain in the eyes. Burning, especially in the evening the eyes are turgid with blood. Passing and frequently recurring scintillations; mistiness and vertigo; vanishing of sight; over-sensitive retina; eyes fill with tears when yawning; vertigo on closing eyes; gonorrhœal ophthalmia.

Ophthalmia rheumatica or arthritica.

Opium.—This remedy has been but little used in diseases of the eye. Although probably better known than many others, frequently prescribed. The eye symptoms under this remedy are obscuration of sight; amblyopia, scintillations before eyes. Dim sight as if looking through gauze. Dilated pupil. Sensation as though eyes were too large for orbits. Eyes glassy, protruded, immovable, staring look, half open, turned upward, red, half closed, burning, hot and dry, red, glistening and prominent. Sensation of sand or dust in eyes with burning sensation. Swelling of lower lids; lids hanging down as if paralyzed. Total paralysis of accommodation, with impaired sensi-

bility of retina. Embolism of central artery of retina. Arteries bloodless, veins engorged and stagnant with hæmorrhagic spots on disk.

Menyanthes Trifoliata.—When reading everything becomes black before the eyes. Frequent obscuration of sight while reflecting when reading. Flickering before the eyes as if everything were jumping. Contraction of pupils, then dilation. Pressure in eye with sensation of vertigo or of vanishing of sight, dull stitches in eyeballs, sensation as if eyelids were swollen. Burning over left eyebrow. Dimness of eyes only in open air.

Eyelids feel stiff as from tonic spasm.

EYE-STRAIN: ITS CONSEQUENCES AND TREATMENT.

G. H. HAAS, M. D., ALLENTOWN.

The object of this paper is to direct attention to the eye as a frequent and often unrecognized source of nervous strain, resulting in varied forms of neuroses. Many exhaustive papers are written, but to my mind not too much can be said, particularly in regard to the practical side of the subject. If oculists would publish their asthenopic cases with their treatment and results, it would doubtless serve a most useful purpose to the profession in general.

Errors of refraction and irregularities of the ocular muscles are so common and the ensuing consequences of so serious a nature that they deserve the most careful consideration. There is probably no branch of medicine offering more brilliant results to the conscientious student than the painstaking correction of these anomalies.

Every oculist of some experience can cite cases, *ad infinitum*, in which not only are severe headaches caused by eye-strain but distant organs of the body are affected.

If we agree that defects in the refraction of the eye or anomalies of the extrinsic muscular apparatus are liable to become the cause of impaired nervous energy, and more particularly in a subject of a neuropathic predisposition, we can readily realize that the sooner the source of the depression is removed the better the prospects for the individual so relieved of escaping diseases that impaired nervous energy tends to develop.

If we reflect but for a moment and recall the fact that of all our

special senses sight is the one in constant use during our waking hours, for either distant or near vision, and when we consider the close application required of the student, the professional man, the bookkeeper, and the skilled mechanic, we are in a position to realize the amount of nervous energy which is thus called for, and to appreciate the strain resulting from an abnormality of structure or function in the visual apparatus, and the influence which such a severe and constant strain exerst in the development and maintenance of fnuctional neuroses; for no one can draw incessantly upon his reserve capital of nerve force without incurring a risk of ultimately exhausting it. Undoubtedly the cause of such neurosis resides in a neuropathic predisposition, inherited or acquired, for when such a predisposition does not exist, such generally recognized exciting causes as dental irritation, helminthiasis, sexual irritation, and strong mental impressions, such as fright, excitement or sudden grief, will not be sufficient to cause an attack, and the same will hold good of errors of refraction and muscular anomalies.

The simplest form of eye-strain is that found in a case of simple hyperopia, and the symptoms complained of are difficulty in maintaining clear vision for near objects, headache, pain in the eyes, etc.; but since the hyperopia can be corrected more or less by accommodation, if the error is of low degree, no ill effects may for some time be noticed. At length, however, a point is reached where the accommodation is not equal to the reading or near work, and accommodative asthenopia is the result, which is especially liable to show itself after an illness, or if the patient's health has deteriorated from overwork, anxiety or other causes. These symptoms are almost invariably relieved by the proper correction with convex glasses.

Another form of ciliary strain requires astigmatic glasses; the headache is frontal or temporal, or may extend over the head, and in susceptible individuals be accompanied by pain in the post-cervical region, and generally more severe when the eyes are used for near objects, but may also occur when the eyes are used for distant vision. Relief is almost without exception perfect from the correction with the proper cylindrical glasses. When the eyes require astigmatic glasses with an oblique axis, the headaches are likely to be more severe and general than in cases of the aforementioned type, and are apt to be accompanied by dizziness and nausea. Even the proper lenses in such cases may cause temporary annoyance, but nearly always relieve the symptoms in a week or two in patients who per-

sist in using them if the axes of the eye-glasses for the two eyes are symmetrical. Should the axes of the two glasses happen to be parallel relief is less likely to be obtained.

In mixed and irregular astigmatism in addition to the ciliary strain we have to contend, in addition, with the effect of light upon the retina and sensory fibres of the optic nerve. In such cases a great benefit is derived by having the selected glasses lightly tinted blue to counteract the chemical irritation due to the light.

Dizziness, nausea, headache and other nervous phenomena are almost as prequently due to muscular unbalance as to ciliary strain. The former often does not receive the amount of attention that it demands by the busy oculist, and frequently the errors of refraction are alone corrected. It is true, here, as with other sources of nerve-strain, that the effect varies greatly with the individual. One of a highly sensitive temperament will be severely affected by a slight tendency to heterophoria, while on the other hand, a person of a phlegmatic temperament will suffer no apparent inconvenience from a heterophoria of considerable degree, the effect depending also on the kind of work the individual is subjected to. The seamstress, student, etc., will suffer more inconvenience than one whose occupation does not require close application of the eyes. Heterophoria is, as a rule, associated with some form of ametropia, and a careful correction of the refractive error is often followed by a restoration to orthophoria, or at least a disappearance of the asthenopic symptoms, which is all that is looked for.

The fitting of the frames is of as much importance in such cases as is the selection of the proper lens. Otherwise we may get a prismatic effect of the lenses, which is a direct source of muscular strain.

In cases of heterophoria when there is no ametropia, or where the nervous symptoms do not disappear after the refractive error has been properly corrected, recourse should be had to prismatic exercise of the weakened muscles. Failing to establish orthophoria in this way, we may often relieve the symptoms and secure for our patient free use of the eyes by decentering the lenses, or by combining prisms with the lens correcting the refraction, with the bases of the prisms turned towards the direction of the weakened muscle.

Medicine plays a secondary role in a clear cut case of heterophoria or accommodative asthenopia. In the treatment of any disease or condition the first instruction to the sudent is to remove the cause, and my experience has been that the action of medicine is of little

avail as long as these errors have not been properly corrected; in proof of which I have only to mention that these cases have often been treated by able diagnosticians and clinicians with none or only temporary relief.

DISCUSSION.

Dr. E. W. Brickley: The question of eye-strain, I suppose, is one which interests ever practitioner to a greater or less extent. I do not think that there is any other class of cases presenting so many distressing symptoms, and yet when properly understood so easily relieved, as this class. I am sure I do not overstep the mark when I make the statement that fully three-fourths of the headaches to which flesh is heir are the result, directly or indirectly, of defective vision or defective muscular action. Many years prior to the advent of Savidge and Stevens in the line of muscular work, a certain class of these cases remained unrelieved. In fact, during my sojuorn in Europe fourteen years ago, the relief of musclar eye-strain was practically unknown. Such a thing as a graduated tenotomy for the relief of such trouble was unheard of. Since that time they have begun to pay more attention to that line of work. All of us are perfectly familiar with the train of pupil symptoms to which every astigmatic patient is subject, and how beautifully they clear up when proper spectacles are adjusted. Near-sighted cases do not suffer so much, they have long ago given up the effort to accommodate for the near point or the far point. Of course, any accommodation within twenty feet is rendered nil, but they, as a rule, do not suffer unless they are astigmatic to the extent of a half diopeter. I think in case of persistent eye symptoms the question of normal or abnormal vision should be decided, and if decided in favor of defective vision that case should be referred to the hands of a specialist for correction. Of late years I find among the laity it has got to be quite a common thing to deprecate the use of a midriatic in the adjustment of these cases. The impression seems to have gone abroad that the use of a midriatic will more or less entail the continuous use of spectacles, and all the persuasion and argument that can be brought to bear has sometimes failed on my part to remove that impression. The fact of the matter is that the use of the midriatic will very often develop the latent trouble, which, after correcion by the proper glass, is so much relieved that they prefer wearing glasses to being without them.

Even the use of the midriatic in the hands of a general practitioner is perfectly advisable and permissible in order to ascertain if the head symptoms are due to eye-strain, and they should not hesitate to employ a solution of homatropine or atropia in order to demonstrate if the fact of putting the iris body in a state of rest will relieve these persistent and annoying head symptoms. I advocate it whenever spoken to as regards these troubles by my general practitioner brethren, and have found that in many cases the headaches will disappear and remain away so long as the faculty of accommodation has been suspended. In the field of muscular trouble, commonly known as esophoric and exophoric conditions, I have never been able personally, where the deviation has exceeded eight per cent., to do much with prismatic exercises. I know that I am speaking at variance with the experience of some others, but that has been my experience, and when I find a deviation to that extent or exceeding it, I advise a graduated tenotomy.

As I said before, previous to the advent of Savidge and Stevens into this field of msucular work, but little was known of it, and insufficiencies were allowed to run their course rampant. Aching heads and whirling brains were the result. It was my good fortune to make the acquaintance, personally, of Dr. Stevens some years ago, and, sitting at his feet, figuratively, to observe to some extent the knowledge which he has obtained in this field of work. It seems to me that the book that he has written on nervous diseases relating to the eye should be in the hands of almost every general practitioner. They have been of vast help to me, and I know they have been to others in the same line of work, and when you reflect how common these cases are, how they are cropping up daily, and what magical relief can be afforded by intelligent treatment of them, even the general practitioner should have some knowledge of the means and method of their relief. Eyestrain has become more common as the years go on. We demand now very high candle power lights, and, of necessity, the ciliary muscle is overworked. The pupil must be maintained at the maximum point of contraction. There is resulting loss of nervous energy, and not only are refractive errors the result but nervous depletion with resulting forms of nervous anæmia, if I may so style it. Of the human eye, I suppose more is demanded than ever before. If we work our bodies continually ten hours a day it is considered a fair day's work. We work our eyes about eighteen on the average, and nearly all at short range.

A typewriter will do from eight to ten hours steady work at close range. Reading will naturally follow after the period of work. The human eye is continually being overworked. As a matter of course, a resultant breakdown often happens. I am sure there is no class of cases which present the head symptoms so forcibly, and I cannot too strongly urge that wherever a headache is persistent and general medication will not relieve it, that is a case for the oculist. The general practitioner may be able to decide by the use of the mydriatic whether it is due to eye-strain or not, but there are certain lines of eye-strain which nobody but a specialist can definitely determine.

Dr. H. B. Ware: There is one point on which I do not agree with Dr. Brickley, and that is the use of atropine indiscriminately in the hands of the general practitioner. I do not think any man should use a mydriatic unless he is competent to make a thorough examination of the fundus and recognize the conditions presenting themselves. I had a case recently in which the patient had been treated for iritis for some time by a general ppractitioner. The case was a hard, stony eye when I got it. Atropine had been the cause of it in all probability. Whether that was the cause or not, the eye was lost. The indiscriminate use of atropine is a dangerous thing. I think a man, before he uses any remedy of a similar kind, should be fitted to make an examination of the fundus as well as of the anterior portion of the eye.

Dr. Charles Mohr: Rest for the eyes is just as essential as rest for the muscles of a man overworked. I sometimes wonder, and I judge this from personal experience in patients I have sent to eye specialists, whether a time does not come when the glasses which did good service for a time may be abandoned altogether. I know of cases where glasses have been worn with a great deal of comfort for two, three or four years. Then symptoms have occurred that were attributed to eye-strain again, and to the necessity of readjustment of the lenses. This was done and yet the symptoms continued, and then with the abandonment of the glasses entirely the cases have been relieved, even when they were adjusted by the best known oculists in this country. Another point I want to bring out is the danger, when glasses are adjusted, of patients still using their eyes too much. They read with comfort, and if they were to read or write or use the eyes for a period of maybe eight or ten hours out of twenty-four, instead of sixteen, eighteen to twenty hours out of twenty-

four, as so many men in the professions do, they would obtain much more permanent relief and prevent eye-strain. If, for instance, when they go into a train or trolley car or are driving, they were to take their glasses off and simply look out into the wide fields and into the green trees, they would rest the eyes. That is a question I think worthy of consideration. I know from my own personal experience that if I am reading or studying for hours successively, my eyes feel tired. I begin to feel a little headache and some nausea. If I simply take off my glasses, go out into the woods or fields or take a long trolley ride, and look into the distance, my eyes become rested, and in a few minutes the symptoms will subside.

Dr. M. M. Fleagle: As a general practitioner I would like to say that many times after the eye-strain has been apparently corrected by the proper use of glasses, and the patient continues to use the eyes excessively, probably more so than before, and, as Dr. Mohr has said, the symptoms continue, I have found that when such is the case the internal administration of Ruta graveolens will almost invariably relieve them. I happen to live in a town where there is a sewing factory, and a great many other industries where women work by day at their household duties and at night sit up until twelve and one o'clock sewing in order to make a livelihood. As a result I come in contact with many cases of headache from eye-strain, and I have found that Ruta graveolens is one of the remedies I can rely upon, as is also another remedy, a new one, Onosmodium, which will almost invariably relieve the eye-strain of hypermetropic eyes. In regard to the resting of the eyes in car riding after eye-strain, I have found that a great deal of car sickness is produced by riding in the train and looking at different objects, the eye being unable to accommodate itself. As a result, I advise my patients when subject to car sickness to recline the head, close the eyes and not look out at all. That is probably directly opposite to Dr. Mohr's advice, but I have found it works very successfully.

A FEW POINTS ON NASAL DISEASES.

HENRY F. SCHANTZ, A. M., M. D., READING.

It is true that a great many of the patients applying for nasal treatment have more or less complete stenosis of the naris and that

a large proportion of these cases require surgical interference. When the stenosis is due to a deflected septum, an hypertrophied, turbinated body, a deformed turbinated body or a nasal tumor, surgical treatment is the accepted method. The cases of stenosis are referred for operation, but this class does not include all the forms of nasal disease that fall to the lot of the physician to treat. Not all our cases require nor will all submit to an operation, and when the chairman of this section asked me for a paper for this meeting I finally concluded that a resume of a few points on nasal work might be beneficial—a statement of a few things I have noted in practice.

The general tendency is to record surgical practice and exploit new remedies and methods. We find very little in journals and society proceedings pertaining to drugs and their internal uses. The selection of the internal remedy for the patient is exceedingly important, especially if the condition be acute and not directly due to some mechanical cause acting locally. I believe there are very few of us in this society who neglect the use of drugs in their work, but in addition to the internal remedies we can and do accomplish much with local measures. When a patient's nose is stuffy, he cannot breathe freely or must resort to mouth breathing, his air-supply being interfered with, he comes for relief and he will have it and will not be satisfied with the internal remedy alone. The relief from local applications in most cases is marked.

Many of the operations in the nose are difficult to perform and require skill to do them properly, but the local treatment is not difficult, nor is a great amount of expensive apparatus necessary. Patients thoroughly appreciate the efforts of their physician if he can quickly clear a stuffy nose for them, and give them comfort in their respiratory efforts.

Cleansing of the nares with an alkaline solution which dissolves mucus is always indicated. It prepares the tissues to absorb any remedy that may be applied locally. As to the choice of the anterior spray or the posterior nasal spray, my preference is in favor of the latter if the nares are not obstructed, as it seems to cleanse the tissues more thoroughly and does not so readily leave an abraded membrane.

Where the rhinitis is due to a local irritant it is only rational to thoroughly cleanse the nasal mucous membrane. With the excess-

ive amount of mixed dust and dirt found on municipal streets it is always necessary to remove this irritant from the nose.

The spray solution must be warm. A cool solution is irritating to the delicate mucous membrane.

The use of oily protective vapors has become a well-recognizezd means of soothing inflamed tissues of the nose, and with the excellent vaporizers and nebulizers on the market can be readily applied. A (10 gr. — oz. j.) Camphor menthol in Albolene vapor is an excellent application to use as a protective after the thorough cleansing of the nose. The turgid membranes of acute rhinitis, hay fever or any other nasal condition, associated with turgescence, will be readily shrunken by a solution of Adrenalin chloride (1—10000) or any of the preparations of the supra-renal glands.

Argyrol in 10—25 per cent. solutions is seemingly taking the place of Nitrate of silver in the treatment of nasal ulcerations.

The use of lintine cut into narrow strips and soaked with Adrenalin solution as a packing reduces the swelling of the tissues. The lintine is also a convenient means for the application of Cocaine for anæsthetic purposes. The practice of painting the nostrils with Cocaine solutions I merely mention to condemn.

Peroxide of hydrogen is a cleanser, but must be used with great care if the accessory sinuses are involved. It may spread infection

For some time the use of dusting powders was very common, but I believe they are irritating and useful only in excoriated nares or in cases of excessive rhinorrhœa.

Another point, what is gained by operating our nasal cases or treating them for a catarrhal condition, even with our knowledge of instruments and remedies, if we forget to impress upon the patient the necessity of following our hygienic and dietic directions? They must be taught to practice nasal respiration and the different calisthenic movements to secure deep respiratory efforts. The influence of baths, their clothing and temperance in eating must be emphasized, for I believe we have as much to contend with in these cases the result of errors of diet as almost any other cause.

I do not intend to offer an exhaustive paper on local remedies, for that would require more time than is allowed and more patience than anyone of my hearers possesses. The recital of rare cases and the description of show operations is entertaining, but I believe that we all gain more benefit by comparing our methods of handling the

"every day" cases, and I trust this will occasion discussion of how best to treat them.

DISCUSSION.

DR. H. S. WEAVER: I think in all nasal work cleanliness is next to Godliness, but there is one precaution I wish to suggest in the use of the post nasal spray, that is, that it is to be done with the utmost care and only by skilled hands, and then directing the patient not to blow his nose immediately after its use. I have seen some cases of middle ear inflammation arising from these post nasal sprays, not the result of the spray, but the result of the patient blowing the nose quite profusely immediately after it has been used, thus causing an amount of obstruction at the tip of the nose, in using a handkerchief, forcing some of the liquid through the Eustachian tube into the middle ear, and setting up inflammation in that way. Spraying is an excellent procedure. I do not know anything that will wash out the anterior nares more satisfactorily than this method, but I think it should be used with caution. I have almost discarded the use of the spray in acute conditions unless it is a very soothing and non-irritating one by an oil vaporizer. Camphor, I think, is a remedy which is used a great deal too frequently. I think Camphor in a good many cases of nasal trouble is irritating instead of soothing. Especially in acute conditions it is very apt to dry the nasal mucous membranes and in that way cause irritation. One of my pet prescriptions is Menthol, Carbolic acid, Oil of eucalyptus and liquid Albolene, omitting Camphor. I formerly used it with Camphor, but latterly I discarded that drug on account of its drying effect. It may be only my own experience. I know that others use Camphor a great deal, but I have found it quite drying to the nasal mucous membrane.

DR. E. W. BRICKLEY: I would like to ask Dr. Schantz whether he has had occasion to use the post-nasal spray in atrophic rhinitis; do I understand that you depend on the post nasal spray exclusively for cleansing the anterior nares?

DR. SCHANTZ: Not exclusively.

DR. E. W. BRICKLEY: I would like to see a chronic case of atrophic rhinitis that could be thoroughly cleansed in that manner. You can attack it posteriorly and the discharge will still stick. As regards obstruction in nasal cases due to deformed or hypertrophied turbi-

nates, I have long since discarded the use of the cautery. I do not believe that nature ever reforms the membrane that you destroy with a red hot cautery knife, and I think if we can accomplish the same result in a longer time by local soothing applications, we will attain just as much glory and will cure our cases. When I first began practicing as a specialist in nasal work the use of the cautery was almost indiscriminate. Every case of hypertrophied turbinate that came our way was cauterized, and in one case to my knowledge, in which I was fortunate not to have been the operator, I saw a case of carcinoma develop from its use, and which ultimately resulted in death. The use of Menthol, Carbolic acid and Eucalyptus has proven very efficacious in my hands. I still cling to my idols, though, and am always inclined to put a little Camphor in with it. I find where there is congestion Camphor brings almost immediate relief, although, of course, Menthol is a great help in that direction, but there is a proprietary preparation, I suppose you might call it, which has afforded me a great deal of satisfaction in its use. I refer to that manufactured by H. K. Mulford Company, familiar, no doubt, to many of you, and known as Blandine compound, containing all the elements, however, in smaller proportion than we would combine them in the Menthol spray. I think it contains some Camphor. I know there is Menthol in it. That agent in my hands has proved of vast service. I give it to patients and tell them to use it when the nose feels at all stuffy. I found it not only relieves that stuffy obstruction, but it also keeps the nasal passages perfectly free of any obstructions the result of secretion. The use of the Iodine, Glycerine, Iodide of potassium, Creosote mixture I find still very good, and always use it in cases of hypertrophied turbinates. I do not allow the patient to use it himself, however. I apply it about three times a week. I think we may use a mild alkaline spray, but if it is given to the patient he must use it anteriorly. Not one out of a dozen can ever be educated to use the post nasal spray. That is my experience. The use of styptic preparations will accomplish a vast deal in this class of cases. Do not understand me to say I have discarded the use of the cautery entirely. If I find easy means do not bring the desired result I use the cautery. Where I have a nasal spur I drill it off. I have never had good experience of the use of the saw. I find every time I attempt to saw a spur off the nasal cavity I get into trouble I resort to the electric drill. It is quicker and eminently more satisfactory. In this class of cases, due to simple continued engorgement

of nasal tissues, it seems to me the use of milder measures is always to be preferred to those more severe.

Dr. A. C. Shute: The local treatment has been discussed quite freely. I would like to say a word in regard to hygienic and dietetic treatment. That is perhaps harder to get patients to carry out in dispensary work, but in private work those suggestions will do more than local work alone. Local work alone is certainly unsatisfactory without proper dietetic and hygienic suggestions. Watch to see that they are carried out together with the proper remedy.

Dr. L. A. Snyder: I have listened to this paper with a considerable degree of interest. I am not a specialist. However, I do treat the nose and throat some as a general practitioner. As such I have noticed that a thorough technique is to be obesrved. In addition to that hygienic and other treatment have been dwelt upon very strongly, but nothing has been said of Materia Medica. Do our specialists along this line of work not depend on any support from our Homœopathic Materia Medica?

Dr. Julia C. Loos: I put the nebulizer advertisement in my waste basket, tell the agents if they leave the stuff with me I will throw it in the drain, and use my remedies for my patients and not for their noses.

Dr. E. W. Brickley: I by no means disregard the Materia Medica. Some of the most brilliant cures that I ever had the good fortune to make were undoubtedly aided by the application of proper remedies. I wish particularly to refer to a case of atrophic rhinitis which had lasted for three years. I give the credit of the cure almost totally to Aurum metallicum in the 6th decimal. The case has been entirely well for the last eight months. Of course, I used my sprays in order to cleanse the nasal cavity. That is imperative in all cases, but I by no means depend on them. If there is anything not exactly right in the systemic condition I depend upon my homœopathic remedies to get it right.

Dr. R. L. Piper: Allow me to advance into the spiritual realm for a few minutes, and tell you I have absolutely cured two chronic cases of atrophic rhinitis with foul-smelling discharge, one of them with one dose of Psorinum, the 200, and the other with probably three doses repeated at intervals of seven days.

Dr. H. S. Weaver: I wish to state, as I said in my paper, I use local applications and the indicated remedy, well and carefully selected.

Dr. Julia C. Loos: When you use the remedy indicated by the characteristic symptom of the patient, and then in addition use local treatment, you are doing as the woman did who opened a door to the cold air when she had a fire in the stove in the room and tried to sweep. As she swept the dirt the wind blew it back. The local treatment is working against the systemic treatment. By your systemic treatment you may be keeping up the catarrhal discharge and by your local treatment you may be trying to shut it off.

Dr. H. B. Ware: What the doctor has stated interests me very much. The majority of our cases have been pretty well treated, medically and homœopathically, before they come to us, and I consider that the general practitioner knows far more about Materia Medica than I do, and therefore my study has to be on lines which they did not follow up and did not think proper to do, because the mind has a possible scope of a certain limit, and we get these cases in that way, and when a case is sent to me I know it has been well prescribed for homœopathically, and yet I use my judgment for prescribing the indicated remedy as I think. Without proper cleansing surgery would not accomplish very much, and surgery is encroaching on general medicine, as we have seen in the report of the surgical section and also in the discussions in other medical sections. In these cases it is not hygienic to allow a discharge to remain in the nose when it should not be there and expect a result from homœopathic treatment. If Hahnemann ever taught anything it was perfect cleanliness and care in taking care of the body, and that part of it seems to me is very apparent. The majority of cases that come to us are not old and chronic cases. They are acute or sub-acute. Chronic cases go on. There are some cases that are impossible to cure, because they will not follow out directions in taking care of themselves by hygienic treatment, but it seems to me it is imperative to allow nature to cure itself and allow it to get well by removing these obstacles, and I think that the doctor will accept that as part of the treatment in these cases as they come to the specialist.

Dr. H. F. Schantz: I think I referred to the question of internal treatment of cases in the paper. I believe the majority of those doing special work take up the question of Materia Medica. The point Dr. Weaver referred to is in reference to the amount of pressure used in the posterior nasal spray. I believe any man who uses 35 pounds pressure will have ear complications, but if he sticks to 10 pounds pressure and the anterior nares are not obstructed, and he cautions

the patient against blowing the nose immediately after spraying, he will not have much trouble. I referred to office treatment principally in the question of the posterior nasal spraying, and not to giving the patient the spray to use at home. When you give the patient a remedy to use at home you cannot have him do work properly that requires as much care as posterior spraying. So far as hygienic and dietic advice is concerned, I believe if you can gain control of your patients and have them get down to living a slow-going life, following regular habits, you will accomplish a great deal in your nose and throat cases which you cannot accomplish otherwise.

SOME REFLEXES FROM EYE-STRAIN.

J. W. STITZEL, M. D., HOLLIDAYSBURG.

It is not my intention in this paper to discuss all the various reflexes that may be due to eye-strain, but simply to call your attention to some of the more common reflexes that have come under my observation during the last year, with cases illustrating the same.

I am firmly convinced from personal observation that the great majority of general practitioners fail to appreciate the importance of eye-strain as a factor in producing diseases of other parts of the body, and, consequently, fail to recognize the many reflexes that may be traced directly to it.

It is for this reason that I present this subject to the Society at the present time. Very few physicians have any means of testing a patient's vision, and the majority of those who do have a mistaken idea of the various methods of diagnosing eye-strain. I feel sure that the teaching in our colleges is largely responsible for this state of affairs; for most students leave college with the idea that all they have to do to test a patient's vision is to have the patient look at an ordinary test-card, alternately covering one eye and then the other, having the patient name the letters in each line until he or she either reads or fails to read the proper line for normal vision. But any oculist of experience would not think of giving a definite opinion from such a test; for very often a patient's vision will be apparently $^{20}/_{20}$ or even $^{20}/_{15}$ at the test-card, when under a cycloplegic the vision may be only $^{20}/_{200}$ or even less.

I cannot impress upon you too firmly this fact: do not say to a patient because vision is apparently normal he or she has no eye-strain until you have used a cyclopægic, for without a cyclopægic it is impossible to tell how much strain is being put upon the ciliary muscle. As one well-known authority says in his "Maxims and Clinical Hints," in his work, "Astigmatism is an invisible and elusive imp of mischief, requiring much keenness and patience to hunt him down. His hiding place is the ciliary muscle; his disguise amblyopia. He hates atropia as his father was said to hate holy water." Allow me to quote again from the same author: "There can be no accurate and exhaustive diagnosis of refractive error without the use of mydriatics." And yet many physicians of experience and undoubted ability will send a patient, whom they suspect of having some error of refraction, to an optician to have an examination made. I am sorry time will not permit my going into this subject more fully and showing you the folly of sending a person who is suffering from some of the various reflexes from eye-strain to the optician for examination; for I hear men of good standing in the profession refer to the optician as an eye specialist, and if you suggest eye-strain as a cause of certain symptoms in a case they will say: "Oh! that cannot be the case, for the patient has already been to Mr. Blank, a prominent optician in the comunity, or possibly the patient is already wearing glasses prescribed by this same optician."

As an illustration of what I have just said, allow me to quote a case from my record book:

Miss G., aged 8, was brought to me by her mother on account of a periodic convergent strabismus. She was wearinng glasses prescribed by an optician in a neighboring city. On looking at her glasses I found she was wearing — 50 D. S. in each eye. I, of course, knew they could not be the correct correction, and told the mother so. On taking her vision with glasses on I found it to be $^{20}/_{120}$ in each eye. I examined her under atropia and found her full correction to be O. D. + 7.00 D. S. and O. S. + 6.50 D. S., which gave her a vision of $^{20}/_{20}$ in each eye. I prescribed above correction, continuing the atropine in the eyes for some time with the result of no return of the strabismus. I could not believe it possible that any one who knew the first principles of optics could make such a correction, and yet this same optician heralds the fact in glowing terms in his advertisements in our daily papers that he positively

cures cross-eyes with glasses. This is only one of hundreds of cases I could cite if time and space would permit.

Before leaving this subject let me warn you, do not say a patient has no eye-strain simply because he or she is already wearing glasses prescribed by an optician, or because this same optician has declared he or she has no eye-strain. Do not feel satisfied that there are no reflex symptoms in a case from eye-strain until the patient has been examined by a competent oculist under a cyclopægic.

Notwithstanding the fact that a great many of our opticians advertise the fact that they use no drops in the eye, they forget to tell the public the cause for so doing.

And I want to repeat, there can be no thorough and complete examination of the eye without the aid of a cyclopægic. Eye-strain causes more headache than all other causes combined. Or, as one well-known authority says: "Asthenopia is a labor grievance, either a strike for fewer hours of work a day or for better tools."

If in all cases of frontal headache the physician would first send his patient to the oculist before trying other remedies he would save very many people years of suffering. That eye-strain is a factor in producing disease in other parts of the body has been abundantly proven by the clinical experience of every oculist of note. While diabetes, dyspepsia, neurasthenia, hemicrania, epilepsy, insanity and many other diseases have been directly traced to eye-strain, yet it is not my intention to go into a detailed description and explain to you just how eye-strain act reflexly, producing diseases in other parts of the body. I simply want to present for your consideration some cases from actual practice, and taken from my record book during the last year, illustrating some of the reflexes arising from eye-strain.

My first case is:

Miss M. H., age 10, came to me complaining of nausea, necessitating her being out of school at times. She was sent to me repeatedly to be prescribed for for this nausea. I noticed she always had it when she went to school, but was always free from it during her vacation. I tested her vision and found it to be about $^{20}/_{80}$ in each eye. I prescribed atropine, 4 grains to the ounce, and ordered it dropped in the eye three times a day for three days, and then return for re-examination, which she did on February 24th, and found vision to be O. D. $v = {}^{20}/_{200} + 4.00$ D. S. combined with $+ 25$ D. C. axis $100^{\circ} = {}^{20}/_{30}$. O. S. $v = {}^{15}/_{200} + 4.00$ D. S. combined with $+ 0.75$ D. C.

axis 80° $= {}^{20}/_{30}$. Confirmed above under retinoscopy. One week later retested and found the following, which I prescribed:

O. D. + 3.00 D. S. combined with + 0.25 D. C. axis 100° $= {}^{20}/_{20}$? ? ?

O. S. + 3.00 D. S. combined with + 0.75 D. C. axis 80° $= {}^{20}/_{20}$? ? ?

Muscle test showed orthophoria. Has worn the glasses constantly ever since with no return of the nausea.

I always examine every case in which I use a cyclopægic under retinoscopy, and never feel satisfied until the test with retinoscopy and at the test-card are the same. As a cyclopægic I use atropine in children, and in persons where I want to get a prolonged rest of the ciliary muscle I use scopolamine in older persons, and consider it produces as thorough a cyclopægia as atropine; only using homatropine in cases where a cyclopægic is necessary and patient can not be without the use of the eyes for more than a day at a time.

Case II. is Mrs. S., age 27 years. Has had a great deal of nausea for about two years. Would have it for months at a time, and then would get better for a short time, but the nausea would soon return. It was worse in the morning, resembling the nausea of pregnancy, and said she thought at first that was the cause, but, of course, the long continuance of the trouble barred that as a factor. It was at times accompanied by headache, but she usually had it without the headache. Had been prescribed for by a brother homœopath for months without any apparent benefit. I prescribed for her several times with the same result as my predecessor in the case. She had been wearing glasses before this trouble came on, but could not wear them, for they seemed not to suit the eyes, as she had discontinued their use for some time. Had been wearing O. U. + 0.50 D. S. combined with + 0.50 D. C. axis 90, but could not put them on and wear them. To show you the value of a cyclopægic, and that the above correction was practically correct, I tested her vision under scopolamine and found the following correction:

O. D. v $= {}^{20}/_{120}$ + 1.25 D. S. combined with + 0.50 D. C. axis 90° $= {}^{20}/_{20}$.

O. S. v $= {}^{20}/_{200}$ + 1.25 D. S. combined with + 0.75 D. C. axis 90° $= {}^{20}/_{30}$.

Confirmed above under retinoscopy; five days later retested, and found:

O. D. + 50 D. S. combined with + 0.50 D. C. axis 90° $= {}^{20}/_{20}$.

O. S. + 50 D. S. combined with + 0.75 D. C. axis 90° $= {}^{20}/_{20}$.

Patient had amblyopic exanopsia of O. S. Muscle test showed

exophoria one degree. Patient also complained of a severe backache, which she said she had had continuously for more than a year. She returned in a month and said she had no more sickness at the stomach since wearing the glasses; she also volunteered the information that she had no more backache either.

Case III. was similar to cases I. and II. Miss E. H., age 26. This patient like case II. had at times, only not as continuously, a sickness at the stomach, often worse in the morning, but still a continuous nausea all day. Attacks would last several weeks at a time. Complained at times of pain over right eye, which she always described as neuralgia. This at times would be associated with nausea, but very often the nausea would be the only symptom. I had this patient under my care for a whole year at different times, with apparent improvement at times, but in a short time the trouble would recur.

After very careful questioning I found the nausea was always worse after prolonged use of the eyes at near work, so I told her I would examine her eyes, as I believed the trouble, on account of its stubbornness to treatment, to be reflex. I accordingly examined the eyes, and found no manifest error of refraction, but my experience with case II. led me to believe the error was latent, and I explained to her that while there was no trouble with the eyes, yet I could not be certain of it without using drops in the eye; so I used scopolamine, 1 to 500 solution, on the evening of May 24th, and had her return next morning, when I used scopolamine again, and tested the eyes and found the following correction:

O. D. v = $^{20}/_{80}$ + 1.25 D. S. combined with + 0.25 D. C. axis 15° = $^{20}/_{20}$.

O. S. v = $^{20}/_{80}$ + 1.25 D. S. combined with + 0.25 D. C. axis 135° = $^{20}/_{20}$.

Had her return four days later and retested and found:

O. D. $^{20}/_{20}$ + 0.50 D. S. combined with + 0.25 D. C. axis 15° = $^{20}/_{20}$.

O. S. $^{20}/_{20}$ + 0.50 D. S. combined with + 0.25 D. C. axis 135° = $^{20}/_{20}$.

Which I prescribed for constant wear.

Muscle test, Maddox rod esophoria, one degree.

Muscle test, Steven's phorometer orthophoria.

Patient has had no further trouble since wearing glasses.

Case IV. illustrates the effect of eye-strain upon the general nervous

system of the patient. Mrs. W. M., age 37 years, complained of a continual tired feeling, said she could never get rested; got up in the morning feeling as tired as when she went to bed. Had a continual backache, and ached all over. Had some headache at times; was extremely nervous and irritable, and easily excited. Did not care whether she did anything or not, for the least exertion completely exhausted her. On questioning her as to her occupation I found, besides doing her house work, she worked at times a great deal at her husband's books, acting as bookkeeper for him, and found she always felt worse from prolonged use of the eyes. Had been wearing glasses for about ten years, which had been changed by an optician at different times.

I examined her eyes, and found the correction she was wearing was apparently all right as far as her manifest error of refraction was concerned. She was wearing:

O. D. + 0.25 D. S. combined with + 0.50 D. C. axis 45°.

O. S. + 0.25 D. S. combined with + 0.25 D. C. axis 135°.

Which gave her a vision of $^{20}/_{20}$ in each eye. After prescribing for her for some time without much improvement in her condition, I told her that while her glasses were apparently all right, I felt sure that her condition was due to her eyes, and that I could only make a thorough test after using drops. I used scopolamine in the usual way, and found vision:

O. D. v = $^{20}/_{200}$ + 3.00 D. S. combined with + 0.50 D. C. axis 45° = $^{20}/_{20}$.

O. S. v = $^{20}/_{200}$ + 3.00 D. S. combined with + 0.25 D. C. axis 135° = $^{20}/_{20}$.

Muscle test showed esophoria of one degree. Prescribed above correction with complete relief of all symptoms.

Case V. illustrates one of the very common effects of eye-strain, namely, headache.

Miss M., age 28 years, bookkeeper by occupation, came to me May 7th, complaining of a severe headache, felt sick at the stomach and had had some vomiting; said she had been having these attacks quite often for about a year, but they were getting much more frequent and more severe. Had had the headache nearly every day for the last year. Had taken Bromo-seltzer and the ordinary headache powders for them, but now they seemed to have no effect. Present attack had lasted about a week and could not be on her feet much longer unless something was done. I suggested the trouble came from her

eyes, but she said she was too sick to have her eyes examined that day, and that she would come in in a few days. I made an appointment for her to come to my office the following evening when I would use scopolamine, as it is my custom to always drop it in the eye myself the evening before the examination and have patient return next morning, when I use it again about half hour before making the examination. She failed to put in an appearance at the appointed time, but came in the next morning, saying it was impossible for her to be out of bed the evening before, and that her headache was still very severe. I accordingly used scopolamine, and told her to return in three-quarters of an hour. She came back at the appointed time, and told me she had no more headache, saying it had disappeared shortly after using the drops. The patient had been wearing

O. D. + 1.00 D. S.
O. S. + 0.75 D. S.

Had worn this correction for two years. Found vision under scopolamine:

O. D. + 1.00 D. S. combined with + 0.25 D. C. axis 90° = $^{20}/_{20}$.
O. S. + 0.75 D. S. combined with + 0.25 D. C. axis 90° = $^{20}/_{20}$.

Retested four days later, and found vision:

O. D. + 0.75 D. S. combined with + 0.25 D. C. axis 90°= $^{20}/_{20}$.
O. S. + 0.50 D. S. combined with + 0.25 D. C. axis 90° = $^{20}/_{20}$.

Muscle test, Maddox rod esophoria, 1½ degree.

Prescribed above correction with complete relief of all symptoms.

I could go on quoting from my record book and showing you the effects of eye-strain, but time will not permit; but allow me to say in conclusion, do not forget the fact that reflexes from eye-strain are much more common than is generally recognized, and do not feel satisfied that because a patient has apparently normal vision that he or she has no eye-strain until a careful examination has been made under a cyclopægic.

REPORT OF CASES.

H. B. WARE, M. D., SCRANTON.

My object in bringing before you a short report of three rather interesting and nerve-trying cases is the hope of eliciting a general

discussion and hearing some of your observations on similar experiences.

My first case is a cataract extraction I performed in the Hahnemann Hospital in Scranton early last Spring on a prominent patient from a neighboring city. The patient was a very nervous and excitable woman, sixty-five years of age. After the preparatory treatment the day following her entrance, at noon, and with the eye thoroughly anæsthetized, I inserted the speculum with some apprehension. All went well and I made a satisfactory incision of the cornea, and was about to do the iridectomy and had even inserted the forceps to grasp the iris when, without warning, she jerked her head forward and endeavored to squeeze the speculum out of the eye. I soon had her calmed down and did the iridectomy and very quickly extracted the lens, which was no more than completed when vomiting set in, causing severe wrenching. When the attack first came on I hastily removed the speculum and supported the eye with gentle pressure until the attack had passed. I then took a look to see if any harm had been done the eye. Luck seemed to favor us, for all looked well. So I applied the dressings. Shortly after leaving the hospital she again began vomiting, which continued at intervals most of the afternoon, in spite of all the remedies given, until I again saw her in the early evening. I found the dressings all disturbed and she complained of a peculiar feeling in the eye. Before redressing (against my rule), I took a look in the eye, having the patient very gently open the lid. Suddenly she opened the lids very wide, then quickly closed them and squeezed as tightly as she could. When the lids closed I saw the corneal flap turned forward by the tarsal rim of the eyelid as it closed over it, and from the squeezing I was sure the vitreous had escaped this time and the eye lost. As soon as I could calm her I grasped the upper eyelid and carefully lifted it forward and the corneal flap went back in place with no vitreous showing. I was then satisfied to let it alone. The next day at noon when I redressed it everything looked fine and continued so until the evening of the fourth day after the operation, when, during the night, she had a nervous spell and during a moment's absence of the nurse she poked her finger under the eye shield into the eye and scratched it. The wound from this was plainly seen next morning in the lower portion of the eye. Severe pain immediately followed, and before night a beautiful case of iritis was developing in spite of anything we could do. When the iritis was controlled plastic adhesions had formed

with no vision resulting. About two months after the inflammation had subsided I needled some of the adhesions and made an artificial pupil, which I was able to maintain with resulting $^{20}/_{50}$ vision and a happy woman. The prominence of the patient and the many complications made the case a very interesting one to me.

The second case to report, I think, will be more interesting, pathologically. I was called in consultation by Dr. C., of our city, to a case suffering from an attack of otitis media, involving the mastoid, following a grip. Patient was seventy-one years of age. She had had the usual tympanic abscess, which had relieved itself by perforating through the tympanum. When I saw her there was extreme restlessness; temperature, 103; good pulse, and great sensitiveness and swelling and redness behind the ear, with no discharge through the tympanic opining. Patient had no appetite and was quite much reduced from the rigors through which she had passed. We were able to get a good nurse, though much against the patient's wish. I enlarged the tympanic opening and applied Antiphlogistine very freely behind and around the ear and gave Aconite and Pulsatilla internally along with a nasal spray of Formalid solution, there being a considerable nasal discharge. The next day the ear began to discharge freely through the drum opening, which soon relieved the mastoid symptoms, and Dr. C. continued the case. The ear soon healed and good hearing resulted. In two or three weeks from this time I was again called to the same case by Dr. C., but this time the left eye, which was on the same side as the affected ear, was the cause of trouble. The eye was swollen nearly as large as a small orange, intensely injected, with pus in the anterior chamber and no vision present. The first sign of any irritation in the eye was five days previous, when a slight redness was noticed, which did not increase until two days later, when the trouble came on like a whirlwind, the patient refusing to have any consultation until the day I was called. Evidently there had been a metastasis of the ear infection to the eye and thus setting up the attack of panophthalmitis, but I think the eyeball was secondarily involved and was caused from the pressure of the cellular tissue behind the eye, which was intensely congested and which held the eyeball fixed so it could not be moved in any direction. A positive prognosis of no vision for the affected eye and poor for the well one was given, owing to her age and weak condition, etc. I scarified the mucous surfaces and applied ice applications and leeches and general antiphlogistic treatment was followed. Two days later I

passed a knife deep into the cellular tissue just above the eyeball and drew out a large quantity of bloody pus, which continued to discharge for about two weeks, being thoroughly washed out antiseptically three times a day until the tissues began to assume their normal condition. The patient made a good recovery with perfect vision in the good eye and a dwarfed eye in the affected one, which patient insisted having removed for the cosmetic effect only. A Snellen eye was inserted, which is now difficult to detect from the good one and she was happy. About three months after this she developed an attack of erysipelas in light form, which began on the unaffected ear and spread over the face, but at last report she was in good health.

My third case is, probably, one of my own making. A patient, a young lady about twenty-four, was referred to me by Dr. S., of our city, suffering from an irritating cough, with a tubercular family history. On examination I found enlarged pharyngeal follicles, also at the base of the tongue; there were some nasal hypertrophies; there was no pulmonary involvement evident. The patient was much emaciated and nervous symptoms were very marked. Very apprehensive. I reduced the enlarged follicles and the cough ceased. One day she told me she had never heard with the right ear and wondered if anything could be done for it to restore the hearing or better it. On inspection I found the drum practically destroyed, only a small segment attached to the malleus. Underneath and inside of this was hard, impacted cerumen, which I was unable to move with a small probe, so I filled the ear with a medium weak solution of Hydrogen peroxide, which immediately caused severe pain. I did not allow it to remain very long and washed the ear out with warm, sterile water. The pain continued, but in a modified form, all night. Next day I saw an attack of myringitis was developing. This continued, finally involving the mastoid in spite of any treatment I could apply. The pain, at times, was so severe that it was necessary to prescribe opiates for relief. There was no fever present at any time, which made the case rather puzzling. I finally applied Antiphlogistine freely over the mastoid, which I continued for three days, when a superficial abscess began to show itself over the mastoid which I opened freely for good drainage and forced it through into the auditory canal. I was then able to control the whole condition, patient making a rapid recovery; and, remarkable to record, she could hear a normal voice at a distance of five feet away with the affected ear which she could never remember to have done before. The cough had entirely disappeared.

She weighs more now than ever before and her general condition is good. There is one question I have never been able to decide. Was this ear trouble due entirely to the application of the Hydrogen peroxide (which no doubt was the exciting cause) or was it coincident to it, and how much was due to the family diathesis of tuberculosis, which spent its fire in the ear affection? Her statement was that she had been in a run down condition for over three years and now she is better than ever before. I have had other cases in which I could positively say myringitis had been caused by application of Hydrogen peroxide, but they were easily controlled without any serious symptoms resulting, and which soon gave way to treatment. During the entire course of the trouble I did not deem a mastoidal operation called for, and which I think is entirely too often performed for the good of the patient and sometimes the reputation of the operator. Had her temperature been irregular or an irregular pulse been present I should have opened the mastoid without any hesitation, but results are what we are after and sometimes they are very tortuous; but the man who is not too quick with the knife, but who watches his symptoms carefully, stands a fair chance of obtaining the best results.

DISCUSSION.

DR. H. S. WEAVER: I was very glad to hear Dr. Ware speak about Peroxide of hydrogen in the treatment of suppurative middle ear diseases. I have for eight or ten years practically discarded the use of Peroxide of hydrogen in the ear in all cases of suppuration, unless there is a very large opening in the membrana tympani. You are all acquainted with the effervescing properties of Hydrogen peroxide or Hydrogen dioxide, and I have seen cases of mastoid involvement follow its use, simply, I believe, from the fact that the Hydrogen peroxide, coming in contact with a discharge in the middle ear, effervesced and infected the mastoid cells by bubbling up through the natural opening from the middle ear into the mastoid cells. I use other solutions in preference, and I am absolutely afraid to use it in these middle ear conditions unless the opening is very large. I now cleanse the ear with warm, sterile water, and then I use a great deal of care in drying. I use a 50 per cent. solution of Enzymol in Boric acid solution, and find it very much better than Hydrogen dioxide. I also use a new preparation that has come upon the market

composed of formalin, glycerine and, I think, boric acid solution. It is called Glyco-formalin. I have obtained very excellent results from this, especially in chronic cases of suppurative middle ear disease.

Dr. E. W. Brickley: The doctor has presented an interesting array of cases, both as regards eye work and ear cases. I suppose it has fallen to the lot of all doing that kind of work to have had somewhat similar experiences. I could not help but think while he was citing his troubles in regard to a case of cataract extraction,—of a case which presented itself in my own line of work, and which indicated to me a tremendous amount of brutalizing, if I may use the term, on the part of the patient. Of course, I do not suppose any eye man would do anything like that, but the amount of brutalizing that the eye will sometimes sustain, and yet give us a good result, is remarkable. It was during last July that a case presented itself to me of total senile cataract of two years' duration, for extraction, a man of 76, addicted to the use of opiates habitually. The extraction itself proved difficult. I was obliged to insert the scoop and remove it in that manner, but the wound approximated and everything looked hopeful for an excellent result. During that night the patient became somewhat aberrant, and deliberately tore off the bandages and rubbed the eye. They were replaced by the attendant as well as she could, not being skilled, and next morning when I made my visit I noticed the disarrangement of the dressings and remarked it, and was told that the man had deliberately torn them off during the night, rubbed his eye, got on his feet and trotted around the room until they were finally able to restrain him. Naturally I expected trouble. To my utter amazement, everything was in situ, and that case has progressed uninterruptedly, until now I have vision of six-ninths. Another case presents itself to mind, similar to that, in which, after entire healing had taken place, I was obliged to discontinue the operation at the time owing to threatened hæmorrhage, and could not extract the lens as well as I should have liked to, and there was as a result occlusion of the pupil. Instead of using scissors in that case I used an ordinary pair of capsule forceps, and was enabled to extract the occluding mass with most happy result. I do not know whether any of the gentlemen here have ever tried the use of capsule forceps in a case of that sort. We usually take up the curved scissors, but I felt the mass was just in such a position I could get it better with a pair of forceps than I could with a pair of scissors, and I was happy enough to be able to obtain the result. These cases

simply show, even in a case of excessive loss of vitreous, that the results often prove quite contrary to our expectation. I was also interested in that case of mastoid trouble Dr. Ware cited. There was one came under my notice a short while ago, but got away from me because I declined the operation. During my sojourn as a student at the Vienna University we were given two cardinal indications for mastoid operations. One was rise of temperature and chill. Of course, tenderness over the mastoid, swelling and marked redness are indications that mastoid trouble is present, but I have seen those cases subside under the use of thorough painting with Tincture of iodine, and internal medication, and have always hesitated to enter the mastoid until I had tried about everything else so long as the temperature remained under control. The case to which I have reference was in a child of fifteen months. It came into my hands for the belief of an aural polyp. There was marked swelling over the mastoid, and redness, and the ear was discharging, but a free incision over the mastoid through the integuments revealed no traces of pus. I removed the polyp. It recurred. Three times did I remove it. There was no rise in temperature. That child's general health seemed to be perfect, and after the second incision over the mastoid process, which failed to reveal the presence of any pus, there were no untoward symptoms whatever, with the exception of a constant recurrence of this polyp. As I said before, I removed it three times, and advised at the time against operation. When I last saw the case the tissues over the mastoid were not fluctuating, they were boggy, and I rather suspected that there was possibly some necrosis. I tried the usual remedies and used Peroxide of hydrogen, possibly contrary to the advice of my friend and colleague, Dr. Weaver, but that has proven my sheet anchor during an experience of fourteen years, and I prefer it to all other methods, although I always am careful to thoroughly dry out the aural cavity after its use, and afterward apply the hot air current before applying Boric acid or any styptic preparations and astringents. This case has passed out of my hands. What has become of it I do not know, but I would like some discussion on this particular point as to whether operation at that time was justifiable or not. I felt I was not justified in going into that infantile mastoid when there was no rise of temperature or no apparent danger. The polyp was easily controlled. The child was about, playing as usual, suffering no pain. That is a point I would like to bring up here, and I would ask the experience

of the other gentlemen who are in this bureau as regards what they would have done in that particular instance. As regards the use of Peroxide of hydrogen, I think in my experience I have had but two cases in which its use has resulted in pain, and in both those instances I think it was rather due to an old preparation which had possibly acidified. I used nothing in my practice but the O. C., and have had no trouble with it, and so long as it stands by me I shall stand by it.

Dr. Edward Humphreys: I am glad this point has been brought up. I did not know that others had discarded Peroxide of hydrogen, but I have practically discarded it in my own work. In hospital work they use it almost exclusively. In the Hahnemann Hospital if they have suppurative cases they give it to patients almost indiscriminately to take home and use three times a day, by turning the head to one side, pouring three or four drops in with a dropper, and then washing it out. I have seen hundreds of cases, watched them carefully, and while some are benefited, I have not been satisfied, and in my own private work I have been inclined in very few instances to use it. Yet it is used so universally that I was glad to hear the subject brought up. If there is a large opening, all right, but I can find other things that seem to work better and give prompter results.

Dr. H. B. Ware: I was pleased with two things Dr. Brickley brought out in his discussion. One of them was the matter of the operation in his polyp case. There is entirely too much mastoidal operation. It is very like a young surgeon who has to open the abdomen and remove the appendix. The first thing is he has done a mastoidal operation, or whatever the case is. That is the height of his ambition, to make a reputation on that line, without considering the relief of the case. I do not consider that Dr. Brickley would have been justified in operating in the case he cites. The symptom I look for, and which I only mention in my article, is the condition of the pulse. Temperature, I think, is secondary to the time of an operation. If the pulse is wiry and thin in this condition, no matter whether they have temperature or not, I operate without question. I regard the pulse in those cases more than the temperature. There may be certain reasons why the temperature has not risen to a high degree. The temperature sometimes goes up with a jump and then there is a fatal ending. A condition you will find present before the rise of temperature is the thin, wiry pulse. The pulse is a better guide than the temperature, for mastoidal operation. As to the matter of

the application of Peroxide of hydrogen. I do not think in this case there is anything but that which could have relieved the hardened wax which was up underneath the hammer. I used it with fear and trembling, and expected evil results, and got them by wholesale, although in many cases I have had no evil results at all. This was the diluted mixture of the O. C., which I always used, and I think it was a fresh preparation. The nervous condition had a great deal to do with it in my opinion. Slight inflammation may have been established by the use of the Peroxide. She always had feared eye trouble, and feared to have anything done. That is the reason she allowed her disease to go on, and her relief of cough was so prompt she felt I could do almost anything in that line. She trusted me and got the result. If there is a very slight perforation or a medium sized perforation of the drum, and the opening is free, I would not use Peroxide. If there are polyp growths, where this would not enter the tympanic cavity, I would not hesitate for a moment to use the Peroxide, but if the Peroxide enters the tympanic cavity and has not a good chance to get out I would never use it. That is my indication for the application of Peroxide.

NASAL OBSTRUCTION: ITS CAUSES AND RESULTS.

H. S. WEAVER, M. D., PHILADELPHIA.

Nasal obstruction is a very much neglected subject, not only by the laity but by physicians, and those who treat the upper air passages must recognize the great number of patients who suffer from diseases which are caused, or greatly aggravated, by mouth breathing. It is a habit indulged in by many people of all ages.

Those of us who have always breathed naturally and easily through the nostrils, cannot wholly appreciate the disadvantages and deprivations to which mouth-breathers are subjected. This natural, simple, easy mode of breathing should be insisted upon as soon as a child is born. The mother and nurse should be taught that the one way for the child to breathe is through the nose, and when the mouth is observed open it should be closed and gently held until the respiratory function is properly performed. Nasal breathing being acquired early in infancy becomes fixed for life unless some obstruction develops which prevents the free passage of air through the nose, con-

sequently necessitating an opening of the mouth to properly oxygenate the blood.

Frequently young innocent babes are allowed to cultivate the habit of mouth-breathing because the mothers and nurses have failed to close the open mouths of sleeping infants. When this habit is contracted in infancy, and not remedied during early childhood, the chances are it will continue during the remainder of life, unless the most stringent rules are instituted and executed regularly, not only for a few days and nights, but until the respiratory centres are educated to properly perform their function.

Animals breathe through the nose by instinct, so do not need the careful watching of a mother or nurse to see that it is properly done.

Mothers in the savage tribes, without the least knowledge of physiology, will sit by their sleeping babes and gently close their lips as soon as they are opened, instinctively knowing that through the nose is the proper way to breathe. Should we, as physicians, who know the physiological changes which take place in the air in its passage through the nose, not be more watchful to have this important function carefully attended to?

It should be said that one does not live accordingly as he eats but as he breathes. Who has not felt the exhilarating influence of a few deep nasal respirations taken in the pure open air after being in a close, overheated, overcrowded, unventilated room? These inhalations are felt not only in the nose, throat, larynx and lungs, but they give rise to an increased circulation, a glow of warmth to the whole system, a purifying of the blood and a recharging of the vital energies. On the contrary, we have the mouth breather coming out of the same room, he naturally fills his lungs with the same air, only breathing it through a different channel, his pharynx, larynx and lungs are chilled by the effect of the cold air on the delicate mucous membrane, and instead of a glow of warmth following the inhalation, he is chilled through and not infrequently develops an acute cold.

The normal passages for the air to enter the lungs are the nose, naso-prarynx, pharynx, larynx and bronchial tubes. What simpler, easy and more natural method could we have? And yet how many fail to obey this one of nature's most important laws. All the passages through which the air naturally passes are lined with a delicate mucous membrane, giving a large surface with which the air comes in contact before it enters the lungs, heating it to almost

the normal temperature of the body, moistening it when too dry, and absorbing the moisture when too damp and heavy. The nose is so constructed, with the ciliæ, as to form a sieve, cleansing the air to a great extent from dust, consequently rendering it less irritating to the delicate lining of the lungs. Blow your nose after you have been out for a drive, or coming from a dusty place, and you will immediately see how much dirt and dust is prevented from entering the lungs by this wise provision of nature. With these convincing proofs of the vital importance of free, uninterrupted nasal respiration as a fundamental basis for good health, are you surprised that all habitual mouth-breathers suffer to a greater or less degree from acute or chronic bronchial irritations? The causes of nasal obstruction are found in point of frequency in about the following order:

Post-nasal adenoids, hypertrophic rhinitis, tumors in the nose, deflected nasal septi or hypertrophy of the same, abnormal development of the nose, foreign bodies in the nose, hypertrophied tonsils, occlusion of the nares, either congenital or from nasal disease, and lastly, but not least, *habit.*

These causes may be subdivided into those affecting the posterior nares and those of the nasal fossa proper.

The general facial expression of habitual mouth-breathers is characteristic; the open mouth with contracted upper lip, protruding teeth, chiefly the upper, contracted alæ nasi, with lines running to the corners of the mouth; semi-idiotic, vacant or stupid look, especially marked when the hearing becomes involved, as it mostly is when associated with or caused by adenoids in the post-nasal space. This being the chief cause of nasal obstruction especially in children, it should lead the physician to make a careful examination of the vault of the pharynx in all cases with labored nasal respiration. The subjective symptoms obtainable from the patient or attendant may be misleading to the physician. When the adenoid thickening is of sufficient size or in a position to obstruct breathing at all times the diagnosis becomes easy and the treatment clear; but when the thickening is less marked and in a more favorable position the symptoms correspondingly decrease so that it requires greater skill to recognize the cause. At times the respiratory effort is not labored during the waking hours, and only becomes apparent during sleep, due to the loss of the voluntary muscular effort of the chest walls. These cases present the same symptoms as those of the severer type, only having them to a lesser degree, and require the same careful

treatment and attention. Complications arising from post-nasal thickening are extension of acute inflammations to middle ear, chronic post-nasal catarrh, chronic catarrhal deafness late in life and lack of development of the child, both mentally and physically.

In anterior nasal obstruction there are some additional symptoms and complications. Hypertrophic rhinitis and septal spurs when of sufficient size make pressure on the opposing surfaces give rise to many reflex phenomena, such as eye-strain, eye pains, headaches, vertigo, sleeplessness, neuralgia, acute colds and a host of other nervous symptoms. Many times have I seen the correction of a deformity within the nasal fossa relieve a long-standing eye-strain which would not yield to the most careful refraction and eye treatment. We all enjoy hearing a clear, ringing tone to the speaking as well as the singing voice, and this can only be secured by having a normal, resonant nasal fossa, naso-pharynx, pharynx and larynx, and to have the above qualities one must continually follow nature's respiratory law; if they fail in this, the inevitable result must show itself sooner or later in a dry follicular pharyngitis and laryngitis, the extent of the trouble depending upon the duration and persistency of the unnatural breathing.

These patients suffer from pharyngeal, laryngeal, tracheal, and, in many instances, bronchial and pulmonary affections. They are narrow-chested with shallow respiration, chest wall sunken, and are slightly stooped with shoulders well forward; are pale, anæmic and not well nourished, rendering them weak and nervous, with little or no vitality, no ambition, headaches, weak, toneless or nasal quality to the voice and at times aphonia. They are subject to colds, coughs, and not infrequently asthmatic attacks.

The above picture is not overdrawn, in many instances only giving the symptoms as seen by the most casual examination in a typical case of nasal obstruction.

I have purposely omitted treatment in the paper because each case of nasal obstruction should be carefully studied and the treatment given, be it medicinal, local or surgical, which the physician, after careful consideration, deems advisable. I am a firm believer in the efficacy of drugs when carefully selected and administered according to the law of similars, but I also believe that the best results in some of the non-operable cases are only to be had by the local applications carefully selected, plus the indicated internal remedies. In other cases, operation is the only treatment to be considered.

The underlying principle in the treatment of all these cases is, make your diagnosis, ascertain the cause, and then remove it. When the cause has been removed and free respiration is possible through the nose, insist upon the patient doing it. This can be accomplished by calling their attention to it at frequent intervals during the day, and at night have them wear a support fastened under the jaw and extending up over the head. In this way the chin will be supported and the normal respiratory effort be re-established.

In presenting this paper, I do not pretend to discuss every detail of this important subject, but I do wish to revive some of the half-hearted interest which so many physicians seem to have in reference to this important function.

If I succeed in this my purpose is accomplished and many patients will reap the reward by having brighter faces, clearer intellects, healthier bodies, better circulation, clearer voices and freer respiration.

DISCUSSION.

Dr. H. B. Ware: I do not think I can add anything to this most excellent paper, because it most decidedly coincides with my idea on the subject. It is a subject that is very deeply interesting. Much can be said on the same line. In addition to what has already been mentioned, I will say that I recently had a patient present himself to me, a child, suffering from eye-strain, sudden irritation of the eyes, the lids red and inflamed, and pain on application. The patient had been taken to a number of oculists. Each had used Atropine with no more beneficial result than the previous one had. I think I was the fifth or sixth. The patient was about nine or ten years of age. In the summer time he got along very well. As soon as winter would come the trouble began. He received no relief whatever. I had the benefit of the observation of the other physicians. Before I examined the case, in fact, nothing had been done locally. I studied the case along different lines. It seemed to me there must be trouble with the nose rather than the eye. I used Atropine and found the latent trouble which had been growing, and found also that the astigmatism had been growing. I made an examination of the nose and there found a large hypertrophied turbinate and told the mother what the trouble was. The result was that immediately after we began to reduce the irritation, the eye trouble improved. I believe the glasses the

patient has now are just as good as anything I can give. I believe in time they can be removed. I believe the eye can stand the strain without any glasses at all. I believe the primary cause was nasal irritation. While I have not followed it up long enough, I have had a number of other cases in which such results have been caused. There is no doubt but that nasal trouble affects the eyes, and in making an examination I always ask the patient when the headaches come on, morning or evening. If they generally come in the morning the eye trouble is due to the nose.

Dr. Edward Humphreys: I recall a case now that had been to a number of oculists with no avail whatever. It was a woman 35 or 40 years of age, and had been gone over thoroughly, and, finally, she fell into the hands of a physician, who examined the nose and found a spur, not very large, but enough to press on the turbinate. She had constant headaches with all the symptoms accompanying them. The woman was operated. I followed that case for nearly a year. I had a chance to see her at the hospital, where she would come in occasionally. I do not think that woman ever had any trouble with her eyes afterward. She discarded glasses completely. With regard to children with nasal obstruction, anyone who has had anything to do in that line has seen many of these delicate, puny children grow up to ten or twelve years of age with narrow, contracted chests, breathing poor and so forth, and you will find that by removing any adenoids that exist they get relief immediately and often will at once begin to develop mentally and physically, and become hearty children afterward. The paper is admirable. The subject should be looked into more than it is. Often the general practitioner will overlook those things and give medicine without a careful examination of the nose.

Dr. E. H. Van Deusen: Dr. Weaver's paper is very timely, and I am particularly glad he calls attention to the importance of giving attention to the habit of mouth breathing. Little babies acquire the habit with great difficulty. It is very natural for a small child to breathe through the nose, and extremely unnatural to breathe through the mouth. Infants with agglutinated nostrils will almost suffocate even if the mouth is perfectly free. The habit of mouth breathing is acquired, usually, barring permanent obstructions that are congenital, after two years of age, when the child is able to devote his attention to mouth breathing. Sometimes a child, after two years of age, having an acute condition of the nasal mucous membrane that

occasions interference with breathing, will acquire the habit of mouth breathing, and if that continues for a considerable length of time, after the cause has disappeared, the habit will continue. I am very sure that is so. I am sure also often after an operation for hypertrophied tonsils and adenoids the mouth breathing habit will continue, and it is important for us to educate such patients in the importance of breathing through the nose. In my own household I had a case that has given me a great deal of annoyance, and makes me feel the importance of this subject. There is no reason now why that child should not breathe through his nose, except the matter of habit. The habit question is a very important one.

Dr. R. L. Piper: I have been making a special study of diseases of the nose and throat for several years past. There is no question in my mind in regard to the feasibility and benefit to be derived from operative procedures upon adenoids and enlarged tonsils, and even hypertrophied turbinate in children between the ages of six and twelve years when these enlargements seriously affect breathing. But in regard to the operation upon enlarged turbinates and so forth, I have found by observation and experience that children inherit these enlargements. You will run across families where all of the children have these enlarged tonsils and enlarged turbinates, and if these enlargements are not sufficiently great to seriously interfere with their health, the action of proper medicine and proper local applications, kept up until the children reach the age of puberty, will frequently be sufficient. At that time the tonsils will become much smaller and the turbinates will also become reduced in size. I have a family of five or six children under my care where I have noticed that especially. They refused to have operative procedures employed. I have noticed after reaching the ages of fourteen to sixteen these growths became reduced very materially in size and gave them no special inconvenience. The question arises whether by operative procedure at an early age we do not produce a serious condition in later life by producing atrophied conditions. I will ask Dr. Weaver to tell us what has been his observation and experience on that question.

Dr. G. H. Haas: I would like to mention a case in connection with this subject, showing the importance of nasal obstruction in producing eye trouble, and also the frequency with which such troubles are overlooked even by prominent men. About a year ago a man

came under my care who had suffered greatly with pain in the left eye and left frontal part of the head and the eye was in an astigmatic condition. He had been treated by a number of physicians, and also received treatment at some hospital in good standing prior to coming to my place. On examining the man I found that there was a discharge from the left nostril, and on examining the nose I found that there was a growth of some magnitude there, and after I had removed that all the eye symptoms disappeared, the pain left him, the astigmatism disappeared and he got in excellent condition.

Dr. H. S. Weaver: With respect to the formula for local treatment as applied to the nasal cavities, there is no one formula to use in all cases. Each case must be studied by itself and the formula selected that the physician has found to be useful in similar cases. I have seen a number of cases where eye-strain has been relieved. I saw one case with one of our Philadelphia men where no less a disease than acute glaucoma was cured by the removal of a nasal spur which was making rather firm pressure on the middle turbinated bone. As soon as this spur was removed the tension of the eyeball and all the acute symptoms that would come on subsided. Whether they will recur later on is a question. That was done two years ago. I have seen the patient a number of times since, and the glaucomatous symptoms have all remained perfectly quiet, and she has had no further trouble. I do not think there is any operation in surgery that will afford you the same amount of relief in a short space of time as the simple adenoid operation. I have seen children gain as much as a pound a week after the adenoid operation who before the operation had remained in a very delicate, puny condition, taking cold at each change of temperature and each time they were out in the air when the wind was blowing rather hard, and in fact there is one case I wish to speak of that occurred in my practice about two years ago. I did an operation on a small boy about 12 years of age. This boy had been continually taking cold. I remarked to the mother after the operation was done that the boy now would be able to do just as other boys did. Previous to that if he would go out in the winter as other boys did and play around in the street, the next day he would be home from school and probably remain in the house for a week. After the operation I told the mother he could do as other boys did. I said, "Next winter when the snow comes he can do anything he pleases, the same as the other boys." The next winter, the first snow that fell, the boy went out, rolled around and absolutely

got soaked, as much almost as if he had jumped in the river. He came in. His mother scolded him. He said, "Dr. Weaver told me after the operation I could do anything I pleased and would not take cold." Fortunately for me, the boy got along and did not take the slightest cold. Dr. Piper spoke about operations on the young, especially the removal of turbinated bones. I am not in favor of the promiscuous removal of turbinated bones in the young. I think there is where our local and internal treatments come in very nicely. If you look a little deeper into those cases you will find the majority of these hypertrophies are secondary to adenoid conditions. They are the result of frequent attacks of acute rhinitis. These attacks of acute rhinitis are, in a great majority of cases, the result of adenoid thickening. If the adenoid thickening is removed the acute attacks of rhinitis will subside, and with their subsidence the hypertrophies will shrink without any treatment, but they will be materially aided by some soothing application. One of my favorite applications of late is, first of all, to touch up the enlarged turbinated bones, especially where they are of the pseudo-hypertrophic variety, with a little Adrenalin chloride, then later on put a little Iodine and Glycerine, or Tannate of glycerine, or some remedy of that kind, being careful not to use Iodine and Glycerine in too strong a preparation. I think very frequently that mistake is made, solutions are used too strong and become irritating instead of soothing. Earlier in my practice I used Iodine twenty-five grains to the ounce. Now it is only in rare csaes that I use it stronger than five grains to the ounce. In reference to the habit of mouth breathing, which Dr. Van Deusen spoke of, I urge upon all my patients when I see a case of nasal obstruction the result of adenoid thickening, to have the operation done immediately, because if that is allowed to go on for two or three years probably the child will not have any symptoms detrimental to health at this time, but they are bound to come, especially after the acute infectious diseases. If the adenoids are allowed to remain they establish the habit of mouth breathing, which it is almost impossible to correct later on in life. Another thing, I think as soon as the irritation of the operation has subsided parents should be instructed that children must be taught to breathe through the nose. If they do not do it without the use of the apparatus that is made for holding up the jaw, insist on their using that. I know children will rebel, but it is only by parents insisting on the use of this apparatus that they will in any

way overcome the habit of mouth breathing. In fact, if it is once established, especially after puberty, and then persisted in for a number of years, it is next to impossible to get them to breathe through the nose, no matter how free the nasal passages may remain.

REPORT OF THE

SECTION OF OBSTETRICS.

Chorio-Epithelioma Malignum; Report of a Case; Resume of the Histology and Pathology, by J. E. James, Jr., M. D.

Hospital Versus Home Care of Confinement Cases, by Emma T. Schreiner, M. D.

Toxæmia and Albuminuria of Pregnancy and Their Treatment, by E. S. Snyder, M. D.

Extra-Uterine Pregnancy, by James H. Thompson, M. D.

CHORIO-EPITHELIOMA MALIGNUM; REPORT OF A CASE; RESUME OF THE HISTOLOGY AND PATHOLOGY.

J. E. JAMES, JR., M. D., PHILADELPHIA.

I feel as if I owe an humble apology to the Section of Obstetrics for appearing before it as chairman this year. While I appreciate keenly the very great honor conferred upon me by our president, yet my inexperience and ignorance have made me fear lest the meeting of the bureau might prove a complete failure. However, I earnestly hope that, despite a poor pilot, this section, by the papers presented and the discussions engendered, will prove of some benefit to us all and will, to a degree at least, rival the success attained by the meetings of former years.

Following the custom of many of my predecessors, I had intended giving as my paper gleanings from the literature published during the past year pertaining to obstetrical matter—thinking that probably more benefit might thus be derived in so rehashing what you have already read (and possibly forgotten for the while), than in attempting to present in a poor way some one and probably overworked subject. Nowadays, with women rapidly becoming victims to modern ways of living, victims of the progressive and strenuous life, every physician must be more than ever familiar with all known

complications of pregnancy, both old and recent, and he or she must be suspicious of anyone or several in every case of confinement he or she is called upon to attend. So vast must be the resources of the modern accoucheur that many are advocating strict specialism in this branch and deem the time not far hence when public sentiment, if not professional justice, will demand that the obstetrician attend women in labor, rather than the hurried general practitioner. Whether the family doctor shall send his cases of pregnancy to an outsider tioner who sees the majority of labor cases, and so it is that he must remains in the hands of time. As it is now, it is the general practi- or attend them himself is a mooted question; and the outcome still be as well versed in every new obstetrical theory or practice as the specialist. With the opportunity of reporting to you a rather rare and extremely fatal complication—such a collection of new theories and recently published practices would be amiss; for the time is at hand when every physician must know of and be able to diagnose early the chorio-epithelioma malignum in order that its high mortality rate may be reduced by the early institution of effectual radical treatment. We must be as much interested in the histology and pathology of this new growth as the pathologist himself, and it is my intention following the report of a case prepared by Dr. John E. James to give a brief resume of these phases of the growth, derived from the views of the more recent investigators of the subject, trusting that the mere enumeration of the various facts and theories may bring forth in the discussion something we can hold on to as definite for a while at least.

A Case.—I was called, June 18, 1904, to a neighboring State to see a woman with "uterine hæmorrhage."

History.—Mrs. W., age 20, married; five months before gave birth to a fine, healthy child; had a tedious but otherwise normal labor; a good "getting up." Nursed the child and regained strength without incident except the flow continued intermittently, but not excessively, for about eight weeks. About four weeks after it ceased had what she termed her menstruation, slightly more than was normal, and lasted over a week. At about the time for the next period had a return with excessive flow; her physician then desired to examine her but was put off by various excuses for several days until a chill, offensive discharge and a severe hæmorrhage brought consent. He found the uterus large, soft and the os patulous; after etherizing he curetted, removing a large amount of what he believed

was partly organized blood clots; the bleeding and discharge stopped, temperature, pulse, etc., became normal, and convalescence was rapid. In three weeks there was a recurrence of hæmorrhage, and I was sent for, as above.

I found her nervous, weak, anæmic; head, lungs and heart negative, abdominal viscera negative, except a large, smooth uterus extending three inches above pubis. She was etherized at once. Examination revealed the following: Vagina normal, cervix large, soft and patulous, body of uterus large, 5½ inches inside measurement. Upon curetting I removed a large amount of decidual tissue and blood clots, the uterus contracted somewhat and bleeding stopped.

I diagnosed deciduoma and probably malignant, but took some tissue for microscopical examination, and sent it to Hahnemann College, Pathological Department. In due time I had a report that it was a typical case of chorio-epithelioma. I advised an immediate pan-hysterectomy, but delays occurred, and on the tenth day after the last curettement she began with what was deemed an attack of pneumonia; she was not brought to the hospital until July 6th, one week after the first evidence of lung involvement. Upon admission she was weak, anæmic and cachexia well marked, emaciation not so well marked, temperature, 103 1-5; pulse, 160; respiration, 40. Cough hard, thick mucous expectoration, with sharp pains at different places over both sides of chest; great dyspnœa, dulness over larger parts of both lungs and pleuritic effusion in both cavities, but greatest upon the right side. I believeed it to be metastasis to the lungs, and did not consider an operation of any use, so declined to thus interfere. Although the temperature ranged from 101 to 104, pulse 120 to 140, the respiration continued 46 to 52, yet her cough and general condition improved and the pleuritic effusion disappeared, so that an expert diagnostician seemed in doubt of the certainty of lung metastasis. The discharge becoming offensive I consented to make an exploratory incision.

July 12.—Patient stronger, temperature, 100 3-5; pulse, 120; respiration, 50; dyspnœa and cough much better. Chloroform and oxygen was selected as the anæsthetic, and administered by Drs. Hartley and J. E. James, Jr., with Drs. D. B. James and Satterer assisting myself. I cleansed the cervical canal and closed by sutures, then dissected up the vaginal tissues to the body of the uterus. Placing the patient in the Trendelenberg position, I opened the abdomen in the median line, free foul pus was found in the peritoneal

cavity; omentum adherent to fundus and anterior surface of uterus and to right broad ligament. Removing this, well-marked evidences of involvement of uterine peritoneum were seen at points of adhesions of omentum. The entire uterus and adnexa were quickly removed, cavity well washed out with saline solution, and a quantity left in when the abdomen was closed tightly. It may be of some interest to note that the appendix was examined and found to be the shortest I have seen, 1½ c.m. in length. It was removed by the request of patient and family. The entire time from beginning the careful and necessarily slow etherization, operation and dressing and removal to bed was 85 minutes. At the close of the operation the temperature of 102 2-5; pulse, 140; respiration, 72. She quickly reacted, and after it was completed temperature, 102 2-5; pulse, 140; respiration, 54; pulse good in quality. She needed no artificial stimulants. At 3 A. M. she began to sink, and died at 7:53 A. M., July 15, 1904.

Examination of Specimen.—Uterus, 13 c.m. in length; 7½ c.m. in width; 5 c.m. in thickness. On anterior wall 2 c.m.; in front of right cornu a dark purplish nodular growth, soft, friable, 10½ c.m. in circumference, and communicating through wall to cavity of uterus. Fundus was nodular in outline, had a greenish colored spot 2½ by 1 c.m. in size on its apex. Right tube thickened, right ovary cystic, left tube and ovary normal. A longitudinal incision of the uterus showed on the anterior wall of the fundus at the ordinary site of the placental attachment, an area of purplish, red and greenish friable tissue. Within the cavity a quantity of stinking muco-purulent discharge. Numerous nodular growths studded the uterine musculature, perfectly circumscribed and distinct. They varied in size from a small pea to a good sized olive. The majority of the nodules showed central portions made up of organized blood. All were soft, extremely friable, red in texture. They were limited to the upper half of the uterine walls, none having invaded the cervix or lower half of the body.

Chorio-epithelioma is a rather rare disease, and is generally fatal, even after an early extirapiton of the uterus and adnexa, a few cases only having been reported cured. This case varies from a typical case in that there was no involvement of the vagina, the most frequent and early secondary manifestation, and especially in the very extensive and unusually rapid occurrence of secondary manifestations in the lungs; there being no evidence of anything in

the lungs or outside of the uterine cavity on June 18th, and in eighteen days so much was involved that the case was hopeless.

The only characteristic danger signal we have in these cases is the irregular or continuous bleeding after child-birth, abortion or hydatid growths, and its only positive evidence is found by microscopic examination of the scrapings or of the growth. The absolute duty of the physician in every suspicious case is to curette and examine, or have examined by experts, the product of the operation.

Necropsy.—Performed three hours atfer death.

Vagina, negative.

Abdomen opened, slight post-operative peritoneal congestion seen.

Operative field, negative.

Liver, markedly enlarged: the left lobe extending well over to the left hypochondrium, displacing the stomach upward and backward, apparently cirrhotic; other lobes congested.

Gall bladder, negative; two small areas about the size of a pea, yellowish in color, perfectly circumscribed, found on the upper surface of the right and left lobes, respectively.

Spleen, soft, congested; no involvement noticed.

Other abdominal viscera, negative.

Thorax, lungs on both sides found to be about two-thirds normal size, pale in color, with numerous pleural adhesions; each lobe from apex to base studded with many small, light-red nodular and distinct growths, varying in size from a pea to a walnut, the majority of the nodules appearing toward the periphery: cut sections showed growths extending throughout the lung structure; bronchial tubes enlarged, filled with organized blood, and in some areas involvement of the large blood channels by the infiltration of the tumor substance.

Heart, negative.

Pleura and ribs, no involvement.

Patient gave no evidence of cerebral involvement and had permission been given to open the head the brain would have probably showed nothing.

Microscopic Examination.—1. Celloidin sections of the products of the curettage prepared. Specimen: 1. Shows the typical picture of a chorio-epithelioma. Masses of polygonal-epithelioid cells, the majority being mononuclear, surrounded by the unicellular or undivided strands of protoplasm containing numerous nuclei; this latter showing in different areas vacuolization. Areas of circumscribed hæmorrhage corresponding to the blood vessels are well marked,

these areas showing no trace of an endothelial lining, the blood being limited by the syncytial strands. Throughout the specimen there is a small, round cell infiltration.

1. Section of the original growth at the chorion frondosum. This shows well the alveolar arrangement of the Langhans cells and the syncytium as noticed in the sections of the curettements. Some areas show the irregular arrangement—in one place the syncytium predominating and in another the Langhans cells; these latter areas showing the protoplasmic strands irregularly permeating the masses of the polygonal cells. Areas of hæmorrhage are again distinctly present. Away from the mucosa you can notice the infiltration of these elements throughout the uterine tissues.

3. Sections of lung metastasis, in which the syncytium apparently predominates. Otherwise the general characteristics are present.

4. Section of the liver metastasis showing also irregular distribution of the Langhans cells and the syncytium.

5. Section of the right cystic ovary. Throughout these you can notice areas of degeneration, of variable size, surrounded by Lutein masses; Lutein cysts, in other words. The sections are of particular interest; first, as showing at certain points along the margin the Germinal-epithelium, and just within this layer, developing ovum sacs; and second, in presenting at a point corresponding to the hilum a mass of cells which at first sight resemble closely a chorio-epithelioma metastasis, but which from other sections studied is probably nothing but a portion of the par-ovarium, possibly infiltrated with decidual cells.

The malignant deciduoma, or chorio-epithelioma, a more correct name considering our present views of the tumor, was first introduced to the profession by Sanger in 1888, when, before the Leipsic Obstetrical Society, he reported "two unusual cases of abortion." His investigations at the time led him to designate the growth that he found "deciduoma-malignum," describing it as belonging to the sarcoma group, with power of rapidly forming metastases. Prior to this time cases of malignancy following pregnancy, both prematurely interrupted and at full term, had been noted and reported by Maier and Chiari. These were supposed to be either sarcoma or carcinoma; but opinions differed as to the class. The peculiarities of the neoplasm, the fact that it occurred only after pregnancy, that it was more malignant and rapidly fatal than either sarcoma or carcinoma, and that metastasis took place with such unusual rapidity,

led to a more extended investigation by Sanger. Following the report of similar cases in 1890 by Muller and Pfeiffer, investigations were made by this same authority into the many tumors succeeding pregnancy that had been diagnosed adeno-carcinoma, sarcoma, etc., and in 1893 he published his second paper, bringing forth new views, proposing at this time to designate the tumor "sarcoma-deciduo-cellulare." Many investigators then appeared, each with his own view differing from others, and each proposing a new name for the growth according to such views. Among the early observers, L. Frankel was the first to demonstrate the origin of the growth of the chorion in the epithelium, classifying it as carcinoma. It was not until Marchand published the results of his findings that our knowledge of the tumor took any definite form. He demonstrated the growth as fœtal and not maternal, as his predecessors had done, since he found the chorion-epithelium, the syncytium and Langhans to belong to the fœtus and to be the essential histologic elements of the neoplasm; these elements in the event of malignancy being simply grafted upon the maternal tissues. Since this report, numerous cases have been forthcoming and much valuable literature published concerning the growth, by such men as His, Peters, Schmorl, Rub, J. Whitridge Williams, Dorland and Schmuch. The opinions of such observers seem to be coming nearer and nearer to each other, though there are still sufficient authorities who differ to such an extent with the majority as to make impossible at present any very positive statement concerning the histology of the neoplasm.

The chorio-epithelioma malignum is a highly malignant type of neoplasm, of rapid growth, occurring after pregnancy at full term, abortion, or, as it is claimed, in about 40 per cent. of cases, after an hydatiform mole. It is characterized by sudden, profuse hæmorrhage, early extensive metastasis, cachexia andn a high mortality. Its usual seat of primary "infection," so to speak, is the chorion frondosum, though in cases developing after the expulsion of a mole it may occur anywhere in the uterine cavity. Seven cases have so far been reported where the primary seat was entirely without the uterus, the last recorded case of this series being an "ovarian deciduoma." Dr. Palmer Findly has but recently reported the twenty-first case where the growth occurred primarily in the uterine musculature, the endomentrium showing no evidence of involvement. Schmorl tells that where the growth develops after a mole or even in a normal pregnancy, cystic degenerated chorion villi or normal villi may be sep-

arated and carried to distant organs, there to develop a primary growth. The majority of cases, however, have their origin at the placental site. Here macroscopically it appears, as in our case, as a fungoid mass, soft, spongy, friable, light or dark red in texture, and made up for the most part of large areas of blood clots, associated at certain points with greenish-yellow sloughs, giving rise to a highly offensive discharge. Unlike carcinoma or sarcoma, the growth has a tendency to grow away from the uterine cavity and to invade the deeper structures of the uterus, the depth of penetration according to the views of some authorities differentiating partially the benign and malignant types. The primary growth is of varying shape and size. The secondary growths are usually of a nodular shape, and vary largely in size from a small pea to a walnut or larger. These metastatic formations have the same gross characteristics as the primary, the areas of circumscribed hæmorrhage on cut sections predominating. The tendency of the chorio-epithelioma is to invade the blood vessels, and like sarcoma, it is by these channels that metastasis takes Place. Very late metastasis may take place by the lymphatics. It is essentially a vascular tumor; hnece the early clinical manifesattion—hæmorrhage. The presence of the large amount of blood in the growths, it is now claimed, is not so much due to the erosion of the blood vessels and their breaking down by the pressure of the growth as it is the vacuolization of the syncytial masses surrounding the blood channels, and the entrance of the blood into these areas, a phenomenon characteristic and made possibly only by the peculiarity in the growth of the absence of endothelial lining of the blood channels. The growths are usually circumscribed and separated rather sharply from the tissue in which they appear. Metastatic formations have been found in nearly all the organs, the more frequent localities being the vagina, lungs, cerebrum, liver, spleen and kidney.

As we consider the histogenesis of the chorio-epithelioma malignum we are confronted even to-day with the phase of the tumor of which we can lay claim to nothing positive or certain. Much investigation has been carried on by the ablest and most scientific men, both abroad and in this country, to determine from what tissue or group of cells the growth has its origin. Its histological elements and their several arrangements we do know. Following the monograph of Marchand, published in 1895, there are to-day two types recognized, microscopically. You can recognize in some of the specimens I show you, and as I have already described in the post

mortem report, the typical relation of the constituents, namely, strands of protoplasm, irregular in shape and size, staining readily, containing numerous nuclei and showing absolutely no cell division, the Syncytium, surrounding areas of small polygonal usually mononeuclear cells, the Langhans cells forming nests or whorl-like masses is the common arrangement in an epithelioma. This alveolar type Marchand described as the typical variey. The Syncytial masses, as you can readily notice, show beginning, and in some areas, extensive vacuolization, a normal phenomenon in the growth. Large areas of circumscribed hæmorrhage are seen, which may be dilated blood channels, but presenting no trace of an endothelial lining as heretofore mentioned, blood channels surrounded by the Syncytium or plasmodium, as you may choose to call it. Nowhere in the growth do we have any evidence of mesoblastic or hypoblastic tissue.

A very common element, the "Syncytial wander cells," are to be seen in one or two of the specimens and really are nothing but detached masses of the Syncytium containing numerous nuclei and causing, by their shape and size, much confusion between the decidual cells and Lutein cells or masses. I have been unable to find the chorionic villi in these specimens of the case reported, the presence of which, either in a normal state or showing more or less degeneration, early investigation, principally Gottschalk and Waldeyer, claimed essential to make a positive diagnosis. To-day it is believed their presence is unessential for a diagnosis, and that it is not necessary for the development of metastatic growth that these villi "in toto" be carried from the placental site to distant parts. The early stress laid upon the presence of the villi, especially as to the formation of secondary growths, has been given up in view of the newer theory attributing a special proliferative ability to the Syncytium, whereby it is but necessary for bits of the Syncytium to be deported and lodged in a proper nidus, under favorable environment, to develop a new malignant neoplasm. Schmauch draws a parallel case in the formation of metastatic tumors from a primary carcinoma by the deportation merely of cells of the original growth. The rapid and early spread of the chorio-epithelioma is readily understood in the light of this theory, when we but realize that the Syncytium proliferates solely by mitosis, and the buds so formed are constantly surrounded by and in intimate relation with the maternal blood streams, and hence can be very quickly and easily broken off and carried on. This explanation holds true in both varieties of this neoplasm; for

the second or "atypical type," according to Marchand, differs only in the arrangement of the Langhans cells and the plasmodium. In this type there is the absence of the alveolar formation, and, as a rule, the Langhans cells predominate above the Syncytium. These cells occur in clusters or masses of varying size, and permeated by strands of protoplasm (seen very nicely in our specimen of the lungs).

A very constant histological element of these growths is the small round cell. Most of these specimens show a more or less marked infiltration, and it is those specimens which are so highly infiltrated that resemble more closely the sarcoma, and which formerly gave rise to the confusion between the chorio-epithelioma and this latter type of malignant tumor.

From the gross appearance, particularly the alveolar arrangement, the growth resembles a carcinoma. On the other hand, early authorities claimed it to be hypoblastic in origin and from the vascularity-metastatic by the blood channels; the appearance early in life usually from eighteen to forty years, and the round cell infiltration, pronounced it as belonging to the sarcoma family. Whether the carcinoma or sarcoma is its prototype depends upon the recognition of its origin from Syncytium and Langhans cells or the parent trophoblast, and as to whether these elements are fœtal and epithelial or maternal and endothelial. The source of the growth has been traced by different men to the stroma of the chorionic villi, to decidual cells, to the Syncytium alone and to the Langhans cells alone. Within late years the Syncytium and Langhans layers have been held as the responsible tissue, the authorities thus agreeing again entering into argument. Some claim the Syncytium as arising from the endothelial lining of the maternal blood spaces, while others claim it to be identical in origin with Langhans cells, and hence fœtal epthelium. Abel, in his 1901 edition, agreed with Pfannesteil, and claimed the maternal, endothelial origin for the Syncytium, making the growth endothelial, closely associated with sarcoma. The investigations of Frankel, Marchand, Ruge, Schmauch, and others prove that the Syncytium is a portion of the chorion villi, hence is epithelial and belongs to the fœtus. Researches of Van Heukelon, Peters, Pels-Leusden, and Herzog, demonstrate this epithelial origin. These investigations mean that the Syncytium and Langhans layer are intimately connected in development, Schmauch saying that the former is but a stage in the development of the Langhans cells, agreeing with Marchand that the two elements are "one and the same."

Schmauch in studying the metastasis in the brain in one case deduced the facts that the source of such metastasis was deported Syncytial wander cells, and that these cells, undergoing proliferation, gave rise to the giant cells, with vacuolization and the formation within these vacuoles of small epithelial cells resembling closely those of Langhans. He found areas of polygonal cells identical with Langhans surrounded by masses of Syncytium, and concluded it under the light of his studies mentioned, highly improbable that these cells could "break in from the outside." The Syncytium must have been their origin. The researches of Pels-Leusden likewise prove that Syncytial wander cells can and do give rise to cells identical with Langhans. In view of all which, the Syncytium must be closely related to the Langhans cells, both having origin in the same present trophoblast, and that the one is but a stage in the development of the more highly vitalized element or tissue.

The Langhans cells being conceded as a portion of fœtal epithelium, the Syncytium necessarily is of epiblastic origin, and the malignant tumor it is capable of producing is thus an epithelioma.

To exclude the decidual, or maternal origin of the growth, we have but to consider the very pretty examples found in various teratomas recorded, examples which the upholders of this maternal theory cite as conclusive argument. Typical growths have been reported in teratomas of several different organs, particularly, however, of the testicle. We can readily explain the presence of such a growth in these on the ground of "included fœtal tissues," fœtal membranes say, the Syncytial masses of the normal chorion villi thus present, under the necessary stimulation and absence of the proper resisting power in the surrounding tissues, undergoing the stages of proliferation—vacuolization and the production of small epithelioid-mononuclear cells. It is true we are hereby narrowing ourselves by considering the Syncytium alone, and exciting the criticism that it is just as possible for decidual cells to be present in the teratoma, to undergo proliferation. How do we know that these cells do not give rise to the malignant neoplasm? Such criticism accepts as its basis the Syncytium as endothelial, whereas we have just seen the Syncytium to be epithelial. It is difficult at times to accurately differentiate Syncytial masses and decidual cells; nevertheless, they can be differentiated by close observation of the relations of each in the specimens studied, and they are essentially and always different elements. Decidual cells may proliferate but cannot give rise, in the

light of present investigators, to a true chorio-epithelioma. In view of this very fact, the name formerly used, "deciduoma," is a misnomer

In the chorio-epithelioma we are dealing with an epithelial growth and one which belongs to a class of its own; it is neither carcinoma or sarcoma, even though in some respects it may resemble both of these malignant tumors.

It might be well, in this connection, to briefly review those cases of this type of malignant tumor in which the uterine mucosa at the chorion frondosum remained uninvolved; the primary nodule having been found within the uterine musculature, and those cases, still more remarkable, in which the primary growth was found in some distant organ, notably, the kidney, the uterus and adnexa being absolutely free of infiltration. By the generally accepted explanation of these rarer cases, the fœtal origin of the chorio-epithelioma is more markedly impressed upon us. This explanation consists in the theory of the method of metastasis as we have already mentioned. Simply the Syncytial buds arising from the proliferation occurring in the Syncytium of the normal chorion villi, or in the degenerated and more active plasmodium of the hydatiform mole (being carried into the deeper uterine structures to give rise to the primary malignancy or to some other part or organ of the woman), the proliferation of this structure occurring at the placental site being checked by the surrounding tissues, or the masses here formed being absorbed or in some manner destroyed. These cases, like the typical growths, are epithelial, fœtal tumors, grafted upon the mother. There are some, doubtless, who claim this theory to be nil in cases where the primary tumor appears when there are present no chorion villi in the uterus, no Syncytium or Langhans cells, when the woman, then, is not pregnant, concluding that pregnancy is not a predisposing factor. Pregnancy, however, must be present for the development of this new growth. The pregnancy may have been one week, six months or a year previous. Portions of Syncytial or even placental tissue itself may be present in the woman and remain latent for months or years. No cases have yet been reported with the exception of those occurring in the teratomas of the testicles and heart where the history of pregnancy could not be obtained, and as to these abnormal growths they develop from a "fœtal inclusion." The chorio-epithelioma is essentially a tumor of pregnancy, and, therefore, its appearance must al-

ways be preceded by the presence of chorion villi or their epithelial covering.

In many cases of pregnancy—normal or abnormal—it is today claimed there are present to a greater or less extent, scattered throughout the uterine mucosa and deeped tissues—syncytial giant cells—and it is being urged that it is the presence of these bodies in a certain proportion that determines the onset of labor at full term. As far as we are concerned at present, we recognize the danger of a destructive morbid growth in every woman after conception. The question naturally arises—why is it we do not have this morbid process appearing in every case of pregnancy, or at least in a greater percentage of cases. The etiology, as far as predisposing factors go, is extremely indefinite. Heredity has no standing as a causative factor. The age, it is a clinical fact, varies from 18 to 40 years. Hydatiform mole precedes from 40 to 80 per cent. of all cases—and is apparently the chief factor predisposing to the growth. Many moles, however, have not been followed by malignancy—and in many cases of molar pregnancy—syncytial masses have been demonstrated, both in the uterus and neighboring parts, malignancy not following. Dr. Findley states "It is evident from the observations of Veit, Webster, Pick and others that the invasion of the deeper structures of the uterus or even of the structures beyond the uterus by chorionic epithelium is not evidence, per se, of malignancy; that on the contrary, syncytial masses are found in the uterine musculature and are deported to distant parts of the body by veins in normal pregnancy; that soon after the termination of pregnancy, they disappear." In speaking of the so-called benign and malignant forms of the chorio-epithelioma, this same authority tells us that "there is a great variation in the rate of growth in the epithelial elements—the explanation not only lying inherent within the cell elements—but also in the degree of resistance offered by the uterine tissue." The power of resistance held by the tissue in which the syncytial masses are found seems to be the best explanation for the presence or absence of this neoplasm. McFarland, in a recent article, holds to this view—describing a certain "cytolitic equilibrium" between mother and fœtus; in the event of the maternal tissue failing to develop antagonism sufficient to resist the proliferative power of the fœtal tissues. Chorion epithelium would penetrate the uterine tissue to give rise to a primary malignant growth and to metastases as far as the resisting power of the maternal tissues would permit. Any diseased condition arising in the

mother lessening the vitality of her tissues and placing her resistance to external invasion, below par—makes her a likely victim of a malignant tumor. Findley reports a case where a chorio-epithelioma occurred in a case of extreme anæmia. Schmauch in a recent paper goes a step further to clearly state the modern view of the latest investigators as to the nature of this maternal antagonism to foreign grafted elements and by what means masses of syncytium are checked in further development—or destroyed entirely. To quote from this authority we owe to Ehrlich's ingenious investigations quite a new insight into the ætiology of the cell. According to his side-chain theory, the animal organism has the power to produce anti-bodies against foreign cells and their products—so-called cystolysins and heterolysins. Now the organism of the child is not a foreign body in a true sense; it belongs to the same genus. But even in animals of the same genus, Ehrlich and Morgenroth, by devising special methods, have succeeded in producing cystolysins-autolysins. These anti-bodies necessarily have to be formed in the blood of the pregnant woman against scattered cells and cell products. Veit, Halban, Ascoli have taken up this idea and Veit has called this body "syncytiolisin." Immunity from the malignant growth, then, depends upon the presence or absence of certain "anti-bodies"—having the power of absorbing or, in some manner, destroying fœtal remnants. The presence or absence of these "Syncytiolisins," in turn, depends upon the healthy or diseased condition of the maternal system.

Our resumè would not be complete were we not to mention the theory recently advanced by Recasens, whereby he claims the chorio-epithelioma due to a specific malignant power inherent in the chorion epithelial elements, the neutralization of which by the secretions of the thyroid gland (and probably of the ovary) prevents the development of this rapidly fatal tumor. These are the theories upon which rests the ætiology of the tumor to-day.

And so with the study of every new case of chorio-epithelioma occurring, will new facts be brought to light and new theories be promulgated. Today, the best we can do is to analyze, and bear in mind every new theory advanced until our knowledge of this tumor begins to take some definite shape. We have, in the last few years, made marked progress towards something tangible and with interest awakened in obstetrician and pathologist alike in this new growth more accurate diagnosis will be made, and more rapid progress be the

result, towards definite knowledge. We must be satisfied now with the collecting of ideas of the best scientific investigators, and be on the alert for something newer and better. Though the histogenesis may be foggy as yet, the clinical, practical side of this neoplasm cannot be mistaken. We must know the clinical course. We can always be suspicious of the foe and be always armed to recognize the tumor in its incipiency, tentatively at least, when there is time to do something for the unfortunate woman. Dr. Dudley in his recent work, in speaking of the prognosis of the chorio-epithelioma malignum, says "78 per cent. of all cases terminate fatally within six months." This in itself without further addition of words to detract from its forcefulness is a sufficient plea for an early diagnosis by the microscope and complete extirpation of the growth before it is too late—before metastasis has occurred. Allow me just a moment for a brief summary of these, my gleanings.

SUMMARY.

1. "All the cases are essentially of the same nature, although they present individual differences due to varying conditions in the history of their development."—Marchand.

2. All the tumors are epithelial in origin, the chorion-epithelium being the source.

3. The elements composing the tumors are (a) Syncytium, (b) Langhans cells, these two being one and the same tissue or layer of cells derived from chorionic villi, the "Syncytium being but a stage in the cell life."—Schmauch.

4. The tumors are highly vascular, the blood channels are limited only by Syncytium; there being no evidence of mesoblastic or hypoblastic elements in the growth.

5. Metastasis takes place early and rapidly by blood channels.

6. From 40 per cent. to 80 per cent. of all cases follow molar pregnancy. It occurs after abortion and full term pregnancy. Pregnancy is essential for its development.

7. Whether Syncytial masses and placental islets normally present shall remain benign and latent or develop into malignancy depends upon the presence of anti-bodies called "Syncytiolisins" within the maternal system.

8. Death occurs in about 78 per cent. of all cases.

DISCUSSION.

Dr. T. J. Gramm: I want to say that I am greatly interested in this paper. I was very much pleased with it. First of all, a fact of interest to all of us, the doctor calls attention to a new disease. They talked about appendicitis some years ago, about discovering this new disease, and about what they used to do in reference to appendicitis formerly, and on many occasions that was used as an argument against the advisability of operating for appendicitis. Here is nearly a brand new disease. It was first spoken of by Sanger, and I read his articles in the Centralblatt fur Gynecologie. He called attention there simply to two unusual cases of abortion which he had had, which were followed by some remarkable consequences. The doctor has most admirably given a resume of the principal subjects which are now settled. A very few years ago it was a disputed point, in which some of the brightest minds in Europe were engaged, to determine whether the cells that contain within them evidence of malignancy, were of fœtal or of maternal origin, and, as the doctor says, I believe it is settled now that they are of fœtal origin. Marchand engaged in this controversy, and a number of others that have been named. They have made a very voluminous collection of literature on the subject. For us practically, as physicians in everyday practice, this paper is of particular interst, inasmuch as it points out the fact that our cases which have hæmorrhage after delivery, should be regarded with some suspicion, inasmuch as they may contain within them the beginning of a very rapidly fatal disease, one that will be associated with metastases and death within a very short time. There is a remarkable fact about this disease also, that the metastases very frequently occur in the lungs. I have no doubt at all in my mind that just like many cases formerly died of what was said to be colic or peritonitis that are now known to have been appendicitis, so in the same way I am convinced that many cases which have died of "consumption" after delivery (and you know there have been a great many), were cases of chorio-epithelioma, so that it is particularly interesting for men in everyday practice. The metastases are very common in the lung. There is one point to help us out in this matter, and that is to regard with suspicion cases of hydatid cyst. Women who have died of chorio-epithelioma have very frequently shown that they had at one time been affected by the growth of this peculiar structure hydatid cyst. One other point I simply want to

refer to, that is in connection with my presentation of the status of the question of the parasitic origin of cancer. When that subject will be thoroughly discussed, and probably ultimately proven to be either correct or incorrect, we will likewise have light thrown upon this condition. It has been pointed out in the argument of the question of the malignancy of cancer, that it differs from infectious diseases, inasmuch as they are caused by micro-organisms travelling along the vessels of the body, but in cancer it is a cell which travels along the blood-vessels. Consequently they have argued it is not a micro-organism but it is a cell, and it is a nuclear dejection which is perhaps transmitted or transferred to the place to which this cell is carried. Of course, it could be said the same micro-organism or structure or protozoon, could be contained within that cell. We come right to this same point in connection with chorio-epithelioma, and that is the fact that Syncytial cells, the cells from Langhans layer, which the doctor described so admirably, a great mass of protoplasm or layer of protoplasm in which you can see no cell divisions, but in which you can see very markedly stained nuclei, are found in other portions of the body, and it has been demonstrated lately that those cases are not necessarily malignant. When the arguments have all been stated, and when the conclusion has been reached, we will probably also be able to show, because the subject is in discussion in reference to the parasitic origin of cancer, that these cells here contain that micro-organism, or some micro-organism, or at least did contain them in the cell, whereas when these cells were simply transported to other portions of the body, and were not malignant, they did not contain the parasite.

Dr. J. E. James: I did not want to go on record as claiming absolutely that the fœtal origin of chorio-epithelioma has been thoroughly established, but the trend of opinion of the most recent observers is in that direction.

HOSPITAL VERSUS HOME CARE OF CONFINEMENT CASES.

EMMA T. SCHREINER, M. D., PHILADELPHIA.

This paper contains no statistics. It is called forth by personal experiences and difficulties, and seeks the best way to overcome the

difficulties. The way has not been proved; the propositions are open to criticism.

The advantages of home care are many and great. In happy homes we find, as nowhere else, the repose, the peaceful security, the loving environment and tranquility which contribute so largely to recovery from shock. In these homes the advent of a baby is a joy to the whole household. Trouble is not anticipated; to the mother the lying-in period is the happiest time in her life. Far be it from me to deprive such families of one day of blessed communion. In affluent homes, and even in comparative poverty, where the will is right, cleanliness may be absolute. There is less danger than in hospitals of accidental contact with contagion foreign to the case. Quiet can be more perfectly secured, as no other patients within hearing are going through the great ordeal. There is no tramping through halls or ringing of bells. The nursing may be more carefully and attentively done, one nurse having the whole responsibility and giving the patient her undivided attention. Food and hygienic measures are under the direction of the chosen physician, unhampered by hospital rules and regulations. Baby linen comes in contact with no other child's apparel, and is not made harsh by the use of disinfectants. In case of trouble any desired physician may be summoned in consultation instead of being restriced to the hospital staff. Any person distasteful to the patient may be immediately dismissed. The temperature and ventilation of the house is all arranged with reference to the patient. The room with the best exposure is hers. Every thought of the household centers in her. When delivery is counted upon too early the weary waiting time is less weary at home among friends.

The very poorest often cling more lovingly to their families and their poor homes than the richest. Sometimes the mother is a needed protection, sad to say, against the father. The poor people dread hospitals lest their poverty and helplessness subject them to experiments and unnecessary operations at the hands of inexperienced doctors. They dislike the separation from friends especially. Sometimes they dislike the baths and general cleaning up of the hospital. Intelligent patients fear strange doctors and unnecessary use of instruments and hurried delivery; also that personal idiosyncrasies will be lost sight of in routine treatment and decisions according to statistics and averages.

On the other hand, women look to maternity hospitals as a means

of avoiding the care of the carnage field at home. They like to avoid disarranging their pretty rooms and the general domestic upheaval sometimes caused when a trained nurse is in possession of the premises. In case of difficulty they suppose immediate recognition and help are at hand and no valuable time is lost. Also everything in and about the hospital being sterile, the household is spared extra boiling and baking. These arguments are fair and should be true of every hospital as a matter of convenience.

When the home is poor, the mother overworked and improperly fed and clad, where from ignorance or lust the simplest requirements of hygiene are disregarded; then, indeed, is the hospital a boon, a savor of life unto life.

In the best homes there is the danger of too many interests crowding upon the prospective mother. She tries to do too many things at once. So many pleasant cares claim her thought and attention that the needed rest is not obtained. Christian scientists and others teach that as labor is a physiological process no especial rest or care is needed, and in the wild American rush for precedence in everything, tranquility and repose are left far in the background. One woman quotes another as going to a dinner party the second day after confinement; therefore, she may surely look after her household or attend to charitable work or discipline her children. These are worthy objects of her attention; but should she not, for the baby's sake as well as her own, be care-free for a time? Is not nerve-strain, nervousness, nerve-exhaustion the bane of our brilliant American civilization? Is it not true that few babies can be satisfactorily nursed by their mothers, and is this not due to the crowding upon the mother's forces? She is constantly tempted to live beyond her income, physically, intellectually and emotionally. While the short time in a maternity hospital will not do everything it will do much to correct these troubles, for it covers a very important period of time. It may do an infinite amount of good if the patient is instructed as well as cared for. In the first confinement, especially, this instruction may be of value. The question of "race suicide" could be better solved by improving maternal conditions than by increasing the production. Many women are beginning to recognize their need of help and the advantage that a good start gives the baby, and need but a little encouragement and the assurance of a safe and comfortable retreat to induce them to retire from the world for a season when about to become mothers. Many feel that they cannot exclude other interests

when at home, and would welcome the absolute rest of the hospital if they could have their physician and a quiet room, free from sight or sound of the suffering of others.

The greatest advantage of hospital care for all grades of society arises from the freedom from excitement, freedom from household cares, freedom from anxiety. The congratulations of the doctor and nurse are not very exciting; the advent of a new life there is of too frequent occurrence to cause excitement, and an atmosphere of calm and confidence pervades the place. The patient feels that she is in safe hands, and all her family are happy in the thought that no neglect or oversight of theirs may be a source of trouble. I wish to emphasize the advantage to the patient of this freedom from anxiety of her nearest friends and relatives. How often it is remarked that where nobody cares, the patient is sure to do well. Only a few have utilized this care freedom in important cases.

The strong though decreasing sentiment still existing against hospital care seems chiefly due to badly planned hospitals and bad rules and regulations. The plan for a maternity pavilion should secure—

An even heat supply.

Ventilation without direct draughts.

Isolation of the delivery room.

Non-contact of the applicant and patients.

Ease of transfer from delivery room to bed.

Isolation of septic cases.

Conveniences for sterilization of persons and appliances of all kinds.

Ease of access to diet kitchen, dining room, baths, sinks and closets.

Quiet for the patients' rooms.

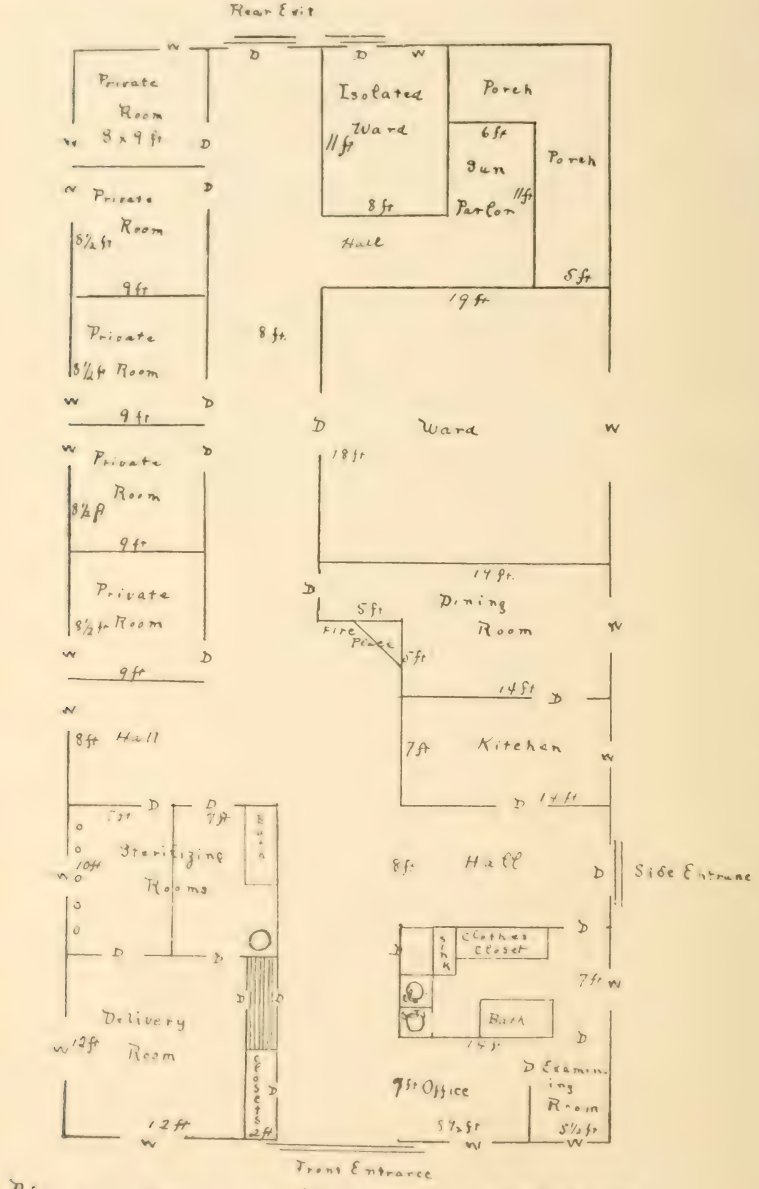
The rules should permit the attendance upon private patients of any physician found qualified by the State.

The wards should be absolutely free to patients. The benefit which the Commonwealth derives from proper care of mothers and infants would compensate for the outlay.

The house staff should care for all cases in the wards with the aid of an outside staff of consultants who must serve in turn and may attend their own patients in the wards.

Any qualified physician sending a patient to the ward may serve as consultant for that patient if summoned by the head resident physician with the consent of the consultant on duty.

A suggestive plan is submitted which attempts to fullfil the requirements of a maternity pavilion in the most convenient and economical way possible.



Plan for Maternity Pavilion 36 × 72 ft

DISCUSSION.

Dr. A. C. Shute: I hope Doctor Schreiner's plan will be published in the proceedings. Her experience where she is handicapped in a three-story building has led her to see the necessity of the maternity ward on the pavilion plan. An obstetrical case is primarily a surgical case. The hospital is the ideal place where all such cases should be treated, and in order to treat them ideally the city must set the pace. Country towns cannot do it. If in cities maternities were made enticing, if there we had men who were experts at their work, as there are too many practicing physicians who are not expert as obstetricians. There are many of them still lacking, they need somebody to help them out, and the hospital should be the place to supply that. The wealthy will be educated to the value of it; the poor will appreciate the value of it, and the cost will be much less. Every woman is certainly entitled to the very best of care at that time, and there is no place where she can get that care better than in the hospital.

Dr. Julia C. Loos: Dr. Schreiner has drawn very clearly the advantages of both home and hospital care. It is amusing to one who is not in it all the time to come occasionally upon the amount of ignorance and superstition and old-fashioned prejudice which surrounds many women during this period. I have recently had my eyes opened very much, not with my own patients, but I have heard of patients under the care of other physicians outside of the large cities, and, indeed, in a city of the third class, and the amount of ignorance in ordinary common sense things which surrounds these patients is truly marvelous. I was in a house recently where there was a baby of about six weeks. The mother told of two or three occasions, when, for the welfare of the child, she had passed the child around the leg of the table. She told many other things of a similar character. Such had been her care, and she thought that there really was nothing better than that sort of thing for the ills of mother and child.

Dr. E. H. Van Deusen: While I do not look upon labor as a surgical case at all, but a physiological process, it needs to be surrounded with just as great care and cleanliness as if it were a surgical operation. For that reason I think we will find as the days go by there will be just as much need for places in hospitals for such cases as there is now for gynæcological operations. Nobody now thinks

of having a major gynæcological operation in the house if he can possibly help it. In my experience with all classes of patients there is a growing desire to be cared for in hospitals. There are a few of the emigrants in this country, Hungarians and Poles, who distrust hospitals very much, and refuse to go into hospitals, but except for those I think the majority of patients are willing at any rate to accept the suggestions of treatment in the hospital, aand many of them really would desire such treatment.

Dr. D. C. Kline: I think every physician can to a very great extent control his own patients. I have rarely had a patient who needed an operation or a patient I particularly wanted confined in the hospital, but would upon my earnest solicitation, demonstrating to them why they should go to the hospital, agree to it, and go readily, and I never had any difficulty in having them go a second time.

Dr. Emma T. Schreiner: I hoped someone would bring up the point of having wards free to patients, and also allowing all physicians to attend their own patients where it is possible, that is, to have access to patients in private rooms who are paying, and also access as consultants where patients are in a ward. I think patients often would feel much happier about going to a hospital if they thought if they were in extremities they could see their own physician. Even the poorest patients generally have a feeling of attachment to their physician.

TOXÆMIA AND ALBUMINURIA OF PREGNANCY AND THEIR TREATMENT.

E. S. SNYDER, M. D., LANCASTER.

I have selected this subject for the paper I bring before you today for the reason that I realize it to be one that is of vital importance to any general practitioner of medicine, believing that we can learn from each other in proportion to the discussion that may be brought out or provoked by my treatment of this subject.

Toxæmia of pregnancy has long been recognized as always present to a greater or less degree in the majority of pregnant women. However, perhaps more strongly, or at least a greater percentage of primipara, suffer from this affliction. It has long been recognized

by some authorities as being the result of auto-intoxication, the direct result of retention of certain poisons in the blood, brought about by the system being called upon to carry off the excretions of the fœtus in utero, caused by regular regressive metabolism. Others claim that it is due to changes in the pregnant mother herself, as has been demonstrated by the increased toxicity of blood serum and corresponding decrease of that of the urine, shown by their effect after injection of certain toxins into the circulation of the rabbit.

Be this as it may, we shall not take up any further arguments, whether pro or con, at this time, as it shall be our aim to dwell upon such a course of procedure that we may hope to control successfully at least nearly all of the cases that may knock at our door for the necessary advice and treatment.

We find, also, that in nearly all cases of pregnancy a greater or less amount of albumen will be permanently present. Now, where present in large quantities, it may be considered of grave import, while in cases of very small amounts it may be the result of vaginal or urethral mucus getting into the urine. This applies more particularly where the urine has not been secured by the aid of a catheter. Therefore, the most accurate tests have been from urine which has been drawn by the aid of a catheter.

The question of albuminuria, therefore, being such a grave one to the patient, should never be overlooked by the physician in charge. In order to properly meet the responsibility every physician should feel it his duty to carefully examine the urine of every patient during pregnancy at least once a month for the first six months of pregnancy, and, after that, every two weeks, unless grave symptoms should arise and continue with some persistency, when it is his duty to examine the urine daily, and note such changes as are going on, giving treatment for the same.

Should the above conditions be accompanied by a considerable reduction in the amount of urea thrown off in twenty-four hours, with perhaps, some gastric symptoms arising, also headaches and lassitude, plus the diminished urinary secretion, with which may be associated œdema of the face or lower extremities, with considerable nervousness and impaired vision, and, indeed, as I have seen in one case, almost total blindness, to which was added temporary hallucinations, during which time the patient imagined, first, that everybody was taking sides against her and making things as uncomfortable as possible. Consequently, she would become so irritable

that it became a task, indeed, to be about her. Again, she would become melancholy, cry and imagine that she was soon going to die, and that there were no hopes for her relief from persecution in the hereafter.

Now, the totality of these symptoms make up a grave picture of threatened eclampsia, and such a patient, in my opinion, should be put to bed at once; rest, quiet and warmth being essential. The room should be warm, and, indeed, if the weather be not too hot, have the patient between blankets. Few cases of threatened eclampsia are so mild as not to warrant this care. Daily tepid sponge baths should now be given, and the proper diet selected, which, in my choice, would be a milk diet, because we all recognize that milk in itself acts most favorably as a diuretic. Also religiously avoiding meats of any kind, and particularly red meats, or, in other words, butchers' meats, and any other strongly nitrogenous foods.

I shall now take occasion to say that I believe all pregnant women are absolutely better off without meats of any kind during the pregnant state.

Now as to the remedies from which we may select one for a particular case we must never lose sight of the fact that it must have a strong bearing upon the circulatory and excretory organs, and I will admit here that I have on certain occasions found it necessary to use drugs in the last days of pregnancy, pushing them for their physiological effects, so as to obtain their action to the fullest degree upon the circulatory and excretory organs.

In one case in particular that I now recall I was compelled to deliver prematurely, under anæsthetics, to avoid eclampsia, and after the delivery and the patient recovered sufficiently from the anæsthetic, the muscular twitchings, excitability and nervousness became so great that I resorted to narcotics constantly over a period of days that I might keep the patient completely relaxed and have no convulsions. After the fourth day the patient had sufficiently recovered, so that I withdrew all narcotics, as she was now completely relaxed and well composed, and went on to speedy recovery, although in her case I continued her upon Arsenite of copper over a period of several months, when the amount of urea in the urine became normal and all traces of albumen disappeared, I considered the patient practically a well woman again.

In this particular case I might add that the child was not affected

in the least by the condition of the mother, and we had a strong, healthy boy brought into the world by this mother.

We must bear in mind in the selection of remedies that they run along the same lines as those used in the treatment of acute or chronic nephritis. We would, therefore, think of such remedies as Arsenite of copper and Apis. This latter remedy is, indeed, one that should never be overlooked in the treatment of any of these cases, as the pathogenesis of this remedy presents almost a perfect picture of this affection, as we all well know œdema is at least a great clinical symptom of this drug, and if we add to that the whitish, transparent, waxy appearance of the skin and the absence of thirst, scanty urination with a highly albuminous condition of the urine, containing tube casts, it seems indeed almost impossible to have a case in which this remedy would not be indicated.

Other remedies that would be thought of would be Cantharis, Terebinth., Merc. cor. and Phosphorus. Digitalis is also often called for when the characteristic cardiac complications are present.

And now, if my brief essay upon this important subject shall meet the desire of the writer, I trust that we may have a lively discussion of this subject that shall prove beneficial to all.

DISCUSSION.

Dr. T. J. Gramm: I cannot let pass the opportunity of expressing my very complete commendation of this paper, and my great pleasure in hastening to such an admirably suggestive paper as this is. I very thoroughly agree with the remarks which the speaker made in closing with respect to the frightfulness of eclampsia when it attacks, as it very commonly does, those who have passed through the period of gestation with comparative freedom from alarming symptoms, and then about the time when their hopes are to be realized they find themselves confronted by this horrible malady, puerperal eclampsia. There are those present who have just informed me of such incidents. I do not know whether they will be reported this morning or not, being so recent. I very fully agree with the gentleman in his statement that these cases should receive proper attention during the several stages of their pregnancy. This condition of puerperal eclampsia is a preventable trouble. Of the cause of it we are not yet in a position to speak with certainty. We formerly believed that it was due to a condition closely simulating uræmic convulsions, and

this idea expressed in the name uræmic convulsions indicates the pathology that was very long held. It was believed that urea retained in the blood was the cause of the convulsions. It has been shown by Bouchard and other Continental experimenters that urea is not the cause of convulsions in these cases. He has shown, I think, that it is possible to inject a large quantity, I mean by that over several ounces, of urea into the blood without causing eclampsia. More recently it has been thought that this is due to certain changes in the digestion, or rather the assimilation and exudation of albuminoid compounds in the blood. What ever the cause is, the fact remains that if this condition be recognized early it is preventable. In the course of a year I see a good many cases of puerperal eclampsia. They are met with in my consultation work. Where I have an opportunity to have charge of the case during the pregnancy, I have inaugurated the treatment which I will outline. I occasionally also saw cases in my own practice, but since this treatment has been inaugurated I have had no more cases of puerperal eclampsia. I think within a very few months I have had four cases threatening. I am very sure I would have had the opportunity of testing some of the major operations had this treatment not been carried out. It consists, practically, in what the essayist has pointed out. When the case shows œdema, headache, pain in the stomach and blurred vision, you are then on the verge of having a case of puerperal eclampsia. Those are the symptoms which are very threatening in their import. When any of these symptoms, or even when marked albuminuria alone exists in a case, my habit is to order that a patient be put to bed, irrespective of how well she feels. Then meat and other foods are withdrawn from them, and they are put upon an absolute milk diet. Not knowing the pathology of this condition, we are not in a position to go about it from any aid obtained from that portion of scientific study. However, I am inclined to give a diuretic, and that usually is Digitaline. That is given four times a day. In addition to that the patient gets Arsenite of copper every three hours. I should add a very important point that I nearly forgot, and that is the patient is purged. We get as much elimination as possible through the increased action of excretion through the bowel. This treatment has been successful in a number of cases in preventing the onset of puerperal eclampsia. The cause of puerperal eclampsia is at present engaging the attention of a vast number of investigators abroad. Foreign literature particularly is full of most magnificent attempts

to solve this problem. The molecular constituents of the several fluids of the body, particularly the blood, are being now examined, mainly for the determination of variations in its freezing point. There have also been other articles written wherein the constituents of various fluids have been very carefuly examined. The papers were not able to say where the toxæmia lies, because it is toxæmia. The indications the doctor has given for Apis, I think, are very well stated. There are a number of remedies which are likewise indicated. He has mentioned a number of them.

Dr. A. C. Shute: This subject is certainly of importance to us all, and for fourteen years I have been going along watching my patients by having trained them to bring their urine a month before the expected delivery, even if they have not notified me before. Recently I had a case. She brought the urine and told me she would be confined in about a month. The month was up in February. I was busy and expected to hear from her every day. Her urine was normal when I examined it. This went on for four weeks after her time. I did not examine the urine again and did not see her. I was called. Before I got there the child was born, a perfectly healthy child. I left the mother well. That evening at seven o'clock the father came for me and told me she had a spell of sick headache. I suspected there was something wrong, and went to see her. When I got there she was in a stupor, and in five minutes she was dead. The importance of continual watchfulness certainly was impressed on me then. I had fancied I had been able to avert this trouble by medicine and by treatment, but I do know we must watch the patients constantly. It may come when we least expect it. The remedy that really has done me the most good has been Arsenicum, yet I often have occasion to use a purge, and if I do use a purge there is nothing serves me as well as Epsom salts, a saturated solution, repeated every two hours until you get a watery stool. Then your Digitalis occasionally will certainly do more good, because there is certainly uræmic condition back of this which you need something to affect.

Dr. E. S. Snyder: The reason I did not go into detail more in my paper was that we find these cases very well handled in our text-books, and all good text-books to-day give us all the details and all the minutiæ we want in the treatment of the cases. In reply to what my friend has said about negative tests for albumen four weeks before expected confinement, we are sometimes called upon to ob-

serve the exact conditions here presented as they are in acute, or sometimes, though not often, in chronic nephritis. That is, sometimes where there is a case of nephritis existing we are unable by chemical tests to demonstrate albumen in the urine, but if we use the microscope we find tube casts. Perhaps our brother did not use the microscope but only chemical tests. That may explain why he did not find albumen present.

EXTRA-UTERINE PREGNANCY.

JAMES H. THOMPSON, M. D., PITTSBURG.

By extra-uterine, or ectopic, pregnancy is meant the development of an impregnated ovum outside of the uterine cavity. The condition was described by Riolanus, Benedict Vassral (1669), and by Regnier de Graaf. Abdominal sections for extra-uterine pregnancies were performed by Nufer (1500), Schmidt (1801) described interstitial pregnancy.

Varieties.—Much confusion has been created by the innumerable subdivisions and varieties presented by various authors. Tait, with his usual clearness and conception and love for simplicity of classification, presents the following:

1st. Ovarian, possible but not yet proven.

2d. Tubal, in free part of tube.

3d. Tubo-uterine, or interstitial, is contained in part of the tube embraced by uterine tissue.

Etiology.—The cause of ectopic gestation is obscure. The greatest confusion prevails regarding the cause of ectopic pregnancy. This is not strange, inasmuch as many points pertaining to the physiology of normal menstruation and conception are as yet unsettled.

Clinical History.—In each of the situations noted above the course of gestation may be somewhat different, and each may present an individual clinical picture on account of the difference in the surrounding anatomical structures. The general presumptive signs of pregnancy are commonly the same as in intra-uterine gestation, but there is usually severe pain. Extra-uterine pregnancy occurs oftenest between the twentieth and thirtieth years. The youngest woman affected was fourteen, the oldest forty-seven years of age.

Changes in Uterus and Vagina.—In all forms their changes are alike. The other changes in the maternal organism may vary with the situation of the developing ovum.

Space will not permit the clinical history and pathology of tubal pregnancy; suffice it to say the pathological changes will vary according to the location of the fœtus.

Symptoms and Subjective Signs of Extra-Uterine Gestation.—In the early weeks or months the subjective signs of ectopic pregnancy may be indistinguishable from those of normal intra-uterine gestation. In the tubal variety, which is by far the commonest, there may be no indications of any abnormality until rupture occurs. In the vast majority of cases, however, rupture is preceded by severe cramp-like pains, usually in one or the other iliac region, often accompanied or followed by the discharge of deciduous membrane and by metrorrhagia. The pain of the extra-uterine pregnancy is its most distinctive symptom. It may be defined as a pain described by the patient in strangest terms, occurring in paroxysms with intervals free from suffering, appearing from any time from a few days to months, after a normal menstruation, situated often in one groin, though frequently indefinitely referred to the lower abdomen, extending down one leg or up to the epigastrium, and a pain so severe as to occasion profound disturbance, syncope, followed by nausea and vomiting, a cold sweat, hysterical outbreaks, complete disability, and every appearance of excessive shock. The temperature is almost always slightly elevated.

The Objective Signs.—In tubal pregnancies an exquisitely sensitive tumor may be felt to one side of, behind, or possibly in front, of the uterus, quite firmly fixed after the third or fourth week, and doughy in consistence. The uterus is much smaller than would be expected from the duration of the pregnancy. The uterus is usually displaced forward, backward or to the side opposite the tumor.

Diagnosis.—A diagnosis of extra-uterine pregnancy can usually be made before rupture. In spite, however, of careful attention to the patient's history and the pains-taking physical examination by an expert, a diagnosis before rupture is sometimes impossible. Usually the condition is not recognized in general practice until rupture has occurred. At this time the history of early pregnancy, a paroxysm of frightful pain, sudden collapse, symptoms of internal hæmorrhage with abdominal distention and a vaginal examination showing a pelvic tumor, with possibly the physical signs of effusion

into the peritoneal cavity, make the diagnosis perfectly clear, and indicate an immediate celiotomy.

Ectopic Gestation.—Is to be differentiated from the rupture of a varicose vein in the broad ligament, by rupture of an ovarian cyst or torsion of its pedicle, by acute suppurative salpingitis, pelvic hematocele, pelvic abscess or by criminal abortion, followed by infection, and conception in a rudimentary horn of a bicornate uterus or on one side of double uterus.

A common error constantly occurring in general practice is to mistake an extra-uterine pregnancy for an incomplete abortion.

Prognosis.—Ectopic pregnancy is always a severe condition. It is said that the abdominal variety is the most favorable of all, but even here the prognosis is quite bad enough. Without surgical treatment about two-thirds of the cases die, one-third escape the immediate danger of death. Treated by abdominal section the mortality should be about five per cent. or lower, if the operator sees the patient in time. It is true, also, that spontaneous recoveries are reported after suppuration had set in. That a few recoveries under these circumstances should have taken place only proves the physical endurance of some women; it certainly does not justify an expectant plan of treatment after the diagnosis has been made.

Treatment.—With the frightful mortality attending unmolested ectopic gestation confronting us, there is little need of argument in favor of some form of operative treatment. As soon as the diagnosis is established with reasonable certainty, whether the sac has ruptured or not, the removal of the gestation sac by celiotomy is the only treatment worthy of consideration. Electricity is an uncertain and unreliable remedy. Injections into and puncture of the sac to destroy the embryo should be relegated to the category of discarded and discredited procedures. Abdominal section is the only reliable and trustworthy plan of treatment. The removal of the gestation sac and the control of hæmorrhage is sometimes a difficult operation, not to be undertaken rashly by an unskilled operator. After rupture, the patient's only hope lies in an immediate abdominal section, evacuation of the blood from the peritoneal cavity, the ligation of the blood vessels supplying the sac and its complete removal.

Technique of Laparotomy for Ectopic Gestation.—The general principles of laparotomy are, of course, to be observed.

Vaginal Extraction.—The vaginal operation for tubal pregnancy in the first three or four months is, as yet, in its infancy. It has the

serious disadvantage that, on account of uncontrollable hæmorrhage, a vaginal hysterectomy or hasty abdominal section may be necessary, and if the tube is simply incised and not removed, a diseased and useless organ is left behind to be a source of future trouble. It is impossible, through a vaginal incision, to evacute the blood and blood clots lying in large quantities in remote portions of the abdominal cavity. Kelly reports ten cases treated by the vaginal operation. In one case an active hæmorrhage occurred, which he was unable to control through the vagina. The abdomen was opened and the sac extirpated. "For this reason," Kelly remarks, "anyone who undertakes a vaginal puncture must be prepared to make an abdominal section."

Vaginal section is preferable in case of an old gestation sac undergoing suppuration and containing much macerated or disintegrated fœtus.

The present day which confronts us demands a more painstaking pursuit of correct methods for the treatment of this condition when it is once established. To this end, in this day of scientific medicine, it would be impossible even to undertake such a procedure without some knowledge of the etiology and a fair understanding of the pathology. Neither can we treat a case without being first sure of our diagnosis. We must be alive to the few suggestions and avail ourselves of these for the sake of mankind. I would argue, however, as to the importance of this general care. No treatment to my mind is correct unless these rules are regularly and systematically followed. To feel that no other means are within reach is an equal mistake. No two patients suffer exactly alike, nor do they respond equally to similar treatment. For that reason, we must individualize carefully in each case Our remedies are, indeed, well known, and little time is necessary for their recapitulation. If I were to mention my favorites I should speak of Secale cor., Carbo veg., China off., and Verat. alb.

ILLUSTRATIVE CASES.

Case 1.—*Ectopic Pregnancy, Fœtus in Free Peritoneal Cavity, Operation, Recovery.*—The patient, twenty-eight years of age, had one child four years ago, since which time she has never been pregnant. Has done nothing to prevent conception. Menstruation continued regularly until March 15, 1903, after which time it ceased.

Very soon after this period she complained of sharp pains in the abdomen, more severe on the right than on the left side. I examined her on May 10, 1904, and found the womb pushed to the left. She was seized with hard pains in the abdomen in the latter part of May, with symptoms of shock, but had no hæmorrhage from the uterus. She first felt motion in August. Motion seemed more marked from the first than it should have been and caused much distress. After the middle of August the motion ceased. No history of false labor at that time, but she began to flow, which continued more or less profusely up to the time of the operation. An examination revealed a dilated cervix with a soft spongy mass at the internal os, which was mistaken for a placenta previa. The abdomen was unnaturally flat from the first, and she felt the child was located higher than usual. Believing the condition to be that of placenta previa, she was placed under anæsthetic and an examination made, revealing the uterus empty, and I proceeded to open the abdomen at once.

Operation.—Patient placed in Trendelenberg position and abdomen opened in median line. A large mass presented itself when the abdomen was opened, which was intimately attached to the pelvic floor and base of right broad ligament. This proved to be the remains of the sac and the placenta, together with a large organized blood clot. An elastic ligature was thrown around the base and the entire mass was amputated above the ligature. The umbilical cord was traced to the upper part of the abdomen, where a four months' fœtus was found in contact with bowels and omentum. After the fœtus was delivered and the sac cut away, the remaining portion of the placenta and left broad ligament were entirely enucleated. The abdomen was washed with a normal salt solution. A glass drain was inserted. Abdominal wound closed with interrupted silk sutures. The shock was extreme at the termination of the operation, necessitating infusion of twenty ounces of normal salt solution and an active heart stimulant. The fœtus weighed two pounds. Putrefaction had set in, and the skin broken in many places. As there was no history of secondary rupture, it seems probable that the fœtus passed into the peritoneal cavity when the first rupture took place. The fœtus had been dead for some weeks. The patient made an uneventful recovery.

Case 2.—Laparotomy for Ruptured Ectopic Pregnancy.—Patient thirty years of age. One child six years ago; sterile since. Some two months previously patient believed herself to be pregnant, and

one day while shopping was suddenly taken with a severe pain in left side, which was followed by loss of consciousness and collapse. She rallied from the shock, but in a course of five or six days symptoms of sepsis set in. Operated on December 10, 1902. The abdomen was found full of clotted blood, the left tube was ruptured and was filled with a soft broken down mass, which contained the products of an ectopic pregnancy. Abdomen emptied of all clots and irrigated, and a drainage tube inserted. The tube, ovum and sac were all removed. While in this case convalescence was tedious, perfect recovery ultimately occurred.

E. Runge, in examining the circumstances attending two hundred and thirty-three cases of ectopic gestation, found that of this number there were one hundred and eight cases associated with hæmatocele; in seventy-three cases there was tubal abortion; in forty-seven cases there was tubal rupture; in five instances the tubal pregnancy was yet intact. Of the cases where the tube had ruptured, in thirty-nine times the rupture had occurred into the free peritoneal cavity, and eight times into the broad ligament. The relative frequency of these several occurrences is in accord with the percentages observed in their large series of cases. The study of his cases leads the author to the following conclusions:

1. Tubal pregnancy has its cause in previous pathological puerperium and in chronic gonorrhœa (24 per cent.; Duhrssen found 68.7 per cent.).

2. Nulliparæ are not protected from it occurrence.

3. A more or less prolonged period of sterility precedes ectopic pregnancy. He found on an average four years.

4. Tubal abortion and rupture mostly take place in the first to third month of pregnancy.

5. The operative treatment of the abortion and rupture was used: 1. When symptoms threatening life existed. 2. When the tumor was increasing in size. 3. When the general condition became worse, or when a resorption of the tumor did not set in. 4. In continued high temperature.

6. The best operative procedure in tubal abortion or rupture is laparotomy.

7. Drainage of the abdominal cavity is to be avoided if possible.

8. Placenta and fœtal sac are to be entirely removed if possible.

9. The clots found in the abdomen should be removed only as

much as can be easily done, provided, of course, that they are not disintegrating or purulent.

10. The end of pregnancy should not be waited for in order to operate only when the child is viable.

11. A statistical study of the results of the last five years is encouraging. The mortality, both immediate and subsequent, has been reduced materially.

CODE OF MEDICAL ETHICS

OF THE

AMERICAN INSTITUTE OF HOMŒOPATHY

ADOPTED IN 1844

SCOPE.

The scope of a Code of Medical Ethics comprises the reciprocal duties and obligations of physicians and patients; the duties and obligations of physicians to each other; and the reciprocal duties and obligations of physicians and the public.

FUNDAMENTAL PRINCIPLES.

The great principles upon which Medical Ethics are based are these:

1. The great end and object of the physician's efforts should be: "The greatest good to the patient."

2. The rule of conduct of physician and patient, and of physicians toward each other, should be the GOLDEN RULE: "As ye would that men should do to you, do ye also to them, likewise."

The various articles of the Code are only special applications of these great principles.

PART I.

RECIPROCAL DUTIES AND OBLIGATIONS OF PHYSICIANS AND PATIENTS.

Article I. DUTIES OF PHYSICIANS TO PATIENTS.
" II. DUTIES OF PATIENTS TO THEIR PHYSICIANS.

PART II.

DUTIES AND OBLIGATIONS OF PHYSICIANS TO EACH OTHER.

Article I. Duties as Members of the Medical Profession.
" II. Professional Services to Each Other.
" III. Vicarious Services.
" IV. In Regard to Consultation.
" V. In Cases of Interference.
" VI. Differences Between Physicians.
" VII. Concerning Pecuniary Obligations.

PART III.

RECIPROCAL DUTIES AND OBLIGATIONS OF PHYSICIANS AND THE PUBLIC.

Article I. Duties of the Profession to the Public.
" II. Obligations of the Public to Physicians.

PART I.

OF THE RECIPROCAL DUTIES AND OBLIGATIONS OF PHYSICIANS AND THEIR PATIENTS.

Article I.—Duties of the Physician to the Patient.

Section 1. The physician should hold himself in constant readiness to obey the calls of the sick. He should bear in mind the sacred character of his calling and the great responsibility which it involves, and should remember that the comfort, the health and the lives of his patients depend upon the skill, attention and faithfulness with which he performs his professional duties.

Section 2. The physician, in order that he may be able to exercise his vocation to the best advantage of the patient, should possess his respect and confidence. These must be acquired and retained by faithful attention to his malady, by indulgent tenderness toward the weaknesses incident to his condition, and by the exercise of a firm but kindly authority. The physician is bound to keep secret what-

ever he may either hear or observe while in the discharge of his professional duties, respecting the private affairs of the patient or his family. And this obligation is not limited to the period during which the physician is in attendance on the patient. The patient should be made to feel that he has, in his physician, a friend who will guard his secrets with scrupulous honor and fidelity.

SECTION 3. The physician should visit his patien tas often as may be necessary to enable him to acquire and keep a full knowledge of the nature, progress, changes and complications of the disease, and to do for the patient the utmost of good that he is able. But he should carefully avoid making unnecessary visits, lest he render the patient needlessly anxious about his case, or expose himself to the charge of being actuated by mercenary motives.

SECTION 4. The physician should not give expression to gloomy forebodings respecting the patient's disease, nor magnify the gravity of the case. Bearing in mind the almost infinite resources of nature, he should be cheerful and hopeful, both in mind and manner. This will enable him the better to exercise his faculties and apply his knowledge for the patient's benefit, and will inspire the patient with confidence, courage and fortitude, which are the physician's best moral adjuvants.

But it is the physician's duty to state the true nature and prospects of the case, from time to time, to some judicious friend or relative of the patient, and to keep this person fully informed of its changes and probable issue; and if the patient himself request the physician to disclose to him the nature and prognosis of his disease, it is duty to state tenderly, but frankly, the whole truth,—provided the patient be of sound mind and strong enough to receive the disclosure without serious injury. The patient has a right to know the truth. If, moreover, facts within the physician's knowledge lead him to believe that it is of great importance, in relation to the patient's affairs, that he should be warned of the approach of death, it is the physician's duty to reveal to the patient's nearest friend, or to the patient himself, the true state of the case, and the importance of timely action.

SECTION 5. Whether the case proceed favorably, or become manifestly incurable, it is the physician's duty to continue his attendance faithfully and conscientiously so long as the patient may desire it. He is not justified in abandoning a case merely because he supposes it incurable.

SECTION 6. As the patient has an undoubted right to dismiss his

physician for reasons satisfactory to himself, so, likewise, the physician may, with equal propriety, decline to attend patients, when his self-respect or dignity seem to him to require this step; as, for example, when they persistently refuse to comply with his directions.

SECTION 7. In difficult or protracted cases consultations are advisable. They tend to increase the knowledge,, energy and confidence of the physician, and to maintain the courage of the patient. The physician should be ready to act upon any desire which the patient may express for a consultation, even though he may not himself feel the need of it. Nothing is so likely to maintain the patient's confidence as alacrity in this respect. Moreover, such a course is but just to him, for he has an indisputable right to whatever aid or counsel he may think likely to be of service to him.

SECTION 8. The intimate relations into which the physician is brought with his patient give him opportunity to exercise a powerful moral influence over him. This should always be exerted to turn him from dangerous or vicious courses towards a temperate and virtuous life. The physician is sometimes called to assist in practices of questionable propriety, and even of a criminal character. Among these may be mentioned the pretence of disease, in order to evade services demanded by law, as jury or military duty; the concealment of organic disease or of morbid tendencies, in order to secure favorable rates of life insurance, or for deception of other kinds; and especially the procurement of abortion when not necessary to save the life of the mother. To all such propositions, the physician should present an inflexible opposition. It is his duty, in an authoritative, but friendly manner, to explain and urge the nature, illegality and guilt of the proposed action, and to use every effort to dissuade from it, and to strengthen the patient's virtue and sense of right. The physician should be aware of the frequency of criminal abortion, and of the different methods employed for it, and should take every occassion to warn those who may be tempted to resort to it. In no case should the physician induce abortion, or premature labor, without a previous consultation, with the most experienced practitioners attainable, nor without the most clear and imperative reasons.

Article II.—Duties and Obligations of Patients to Their Physicians.

SECTION 1. Physicians are required, by the nature of their profession, to sacrifice comfort, ease and even health, for the sake of

their patients. Patients should reflect upon this, and should understand and remember that they have corresponding duties and obligations towards their physicians.

SECTION 2. The patient should select a physician in whose knowledge, skill and fidelity he can place implicit confidence; whose habits of life are regular and temperate, and whose character and demeanor are such that he can regard him as a personal friend. He must be able to confide in him freely. And the physician should not be changed for light reasons. A physician thoroughly acquainted with the constitution, temperament and tendencies of a family can the more successfully treat them.

SECTION 3. The patient should always consult his physician as early as possible after he has discovered that he is ill. A disease which is trifling at its onset may grow formidable through neglect. The physician should be regarded as a confidential adviser, who, on being early consulted, may prevent a sickness.

SECTION 4. The patient should faithfully and unreservedly state to his physician the supposed cause of his malady, and tell him everything that may have a bearing upon its nature. Since the physician is under the strongest obligations to secrecy, the patient should not allow considerations of delicacy, modesty or pride to prevent an entirely frank statement of his case, and candid and full replies to interrogatories.

SECTION 5. The patient should implicitly obey his physician's injunctions as regards diet, regimen and medical treatment. If he deviate from these directions, he cannot hold the physician to a full responsibility in the case; and, further, by a partial obedience he incurs some personal risk, since, in the treatment of diseases, all parts of the physician's advice are made to harmonize, and each is dependent on the others and may be unsafe without the coincidence of the others. Moreover, he does the physician an undeserved, and often a serious, wrong. If the patient have not sufficient confidence in his physician, and respect for him, to follow his directions, it were better for him to frankly say so, and to employ another in whom he can confide.

The patient should never allow himself, while under a physician's treatment, to take other medicines than those prescribed by him. He would, by so doing, incur a serious risk of taking medicines that are

incompatible with each other. If desirous of trying any other mode of treatment it would be much better frankly to state the fact to his physician and ask his advice.

SECTION 6. The patient should, if possible, avoid receiving the friendly visit of a physician other than the one under whose charge he is. When he receives such visits he should avoid conversation on the subject of his disease, for an accidental observation might give him false impressions respecting his disease or destroy his confidence in the treatment he is pursuing. He should never send for a consulting physician without the express consent of his own medical attendant, for physicians can act together for the advantage of their patient only when they act harmoniously. Nor should he, by a secret appointment, constrain his medical attendant to meet another physician with whom he might not be willing to consult; but the patient has an undoubted right to have the opinion of any physician whom he may desire upon his case. His proper course is to request his medical attendant to arrange a consultation and frankly state his desire for the physician whom he may prefer. If his medical attendant decline the consultation it is then for the patient to determine whether he will insist and thus dismiss his medical attendant, or whether he will defer to the judgment of his own physician. And the patient has a right thus to choose.

SECTION 7. If the patient wishes to dismiss his physician he should, in justice and in common courtesy, state his reasons, and, if possible, in a friendly manner. To dispense with the service of a physician need not, of necessity, change the social relations of the parties.

SECTION 8. The patient should, when practicable, send for the physician in the morning, before his usual hour for leaving home. He will, by so doing, secure his earlier attendance, and will enable him the better to apportion his time so as to do justice to all his calls and engagements. He should call on his physician during his office hours only, and should avoid disturbing him in hours devoted to meals, rest and sleep. And in receiving his physician's visits he should avoid compelling him to wait, even a few minutes. The aggregate of petty detentions, while the patient is making some needless preparation to receive the physician, amount to a serious waste of valuable time.

PART II.

OF THE DUTIES AND OBLIGATIONS OF PHYSICIANS TO THE PROFESSION AND TO EACH OTHER.

Article 1.—Duties to the Profession.

SECTION 1. Inasmuch as every member of the medical profession partakes of the honor in which it is held, and is entitled to its privileges and immunities and profits by the scientific labors of his predecessors and associates, it is his duty faithfully to endeavor, in his turn, to elevate the position of the profession and, by every honorable exertion, to enrich the science of medicine.

SECTION 2. In no other profession should a higher standard of morality and greater purity of personal character be required. Physicians ought to come up to this standard and do what they may to exalt it. As the practice of medicine requires constant exercise of a vigorous and clear understanding, and as the practitioner should be at all times, ready for emergencies in which the welfare and even the life of a fellow-creature may depend upon his steady hand, acute eye and unclouded brain, it is incumbent upon the physician to be temperate in all things.

SECTION 3. The physician should not resort to public advertisements or private cards or handbills, inviting the attention of persons affected by particular diseases or publicly offering advice and medicine to the poor *gratis*, or promising radical cures. Neither should he publish cases or operations in the daily prints, nor invite laymen to be present at operations, nor solicit or exhibit certificates of skill and success, nor perform any similar act.

SECTION 4. It is equally derogatory to professional character for a physician to hold a patent for any nostrum or any surgical instrument or appliance, or to keep secret the nature or composition of any medicine used by him. Such restriction or concealment is inconsistent with the beneficence and liberality which should characterize the medical profession. But it is the duty of the physician to avail himself of every opportunityy to observe the action and study the properties of new or secret remedies and new processes of preparing medicines as well as new modes of treating diseases, and to subject them to the analysis of scientific investigation. For the physician should always bear in mind that the great object of his profession is to cure

the sick, and that it is not only admissible, but it is his solemn duty to investigate thoroughly and without prejudice whatever offers any probability of adding to his knowledge of the art and means of curing and of thus enriching the science of medicine.

Article II.—Professional Services of Physicians to Each Other.

SECTION 1. All practitioners of medicine, their wives and children while under the paternal care, are entitled to the gratuitous services of any one or more of the faculty residing near them. Physicians, when ill, are incompetent to prescribe for themselves. The natural anxiety and solicitude which they feel for members of their own family when ill tend to obscure their professional judgment and make it difficult to treat them. Under these circumstances physicians are peculiarly dependent on each other, and kind offices and profesional aid should always be cheerfully and gratuitously afforded. But visits should not be obtruded officiously or unasked upon a sick physician.

If, however, a physician in affluent circumstances, request the attendance of a distant professional brother and offer an *honorarium*, it it not proper to decline it, for one should not, even from a kindly motive, impose upon another a pecuniary obligation which the recipient would not wish to incur.

If a physician is called from any considerable distance the expense of travel, etc., thereby incurred, should always be paid by the physician receiving the visit, and an *honorarium* may be tendered if time is consumed in making the visit.

Article III.—Duties of Physicians as Regards Vicarious Offices.

SECTION 1. Attention to his personal affairs, the pursuit of health and the various contingencies to which the physician is peculiarly exposed, sometimes compel him temporarily to withdraw from his duties to his patients and to request some of his professional brethren to discharge them for him. Compliance with such a request is an act of courtesy which should always be performed with the utmost consideration for the interests and character of the physician relieved. And when this is done for a short period only all the pecuniary obligations for such services should belong to him. But if a physician neglect his business in quest of amusement and pleasure he is

not entitled to the frequent and long-continued exercise of this fraternal courtesy without conceding to the physician who acts for him the fees accruing from the duties discharged by the latter.

SECTION 2. Obstetrical and surgical cases involve unusual fatigue and responsibility, and it is just that the fees accruing therefrom should belong to the physician who attends them.

Article IV.—Duties of Physicians in Regard to Consultations.

SECTION 1. A complete medical education, of which the diploma of a medical college is the formal voucher, furnishes the only presumptive evidence of the professional acquirements and abilities. But the annals of the profession contain the names fo some who, not having the advantage of a complete medical education, became, nevertheless, through their own exertions and abilities, brilliant scholars and successful practitioners. A practitioner, therefore, whatever his credentials may be, who enjoys a good moral and professional standing in the community, should not be excluded from fellowship, nor his aid rejected, when it is desired by the patient in consultation. No difference in views on subjects of medical principles or practice should be allowed to influence a physician against consenting to a consultation with a fellow practitioner. The very object of a consultation is to bring together those who may, perhaps, differ in their views of the disease and its appropriate treatment, in the hope that, from a comparison of different views, may be derived a just estimate of the disease and a successful course of treatment.

No tests of orthodoxy in medical practice should be applied to limit the freedom of consultations. Medicine is a progressive science. Its history shows that what is heresy in one century may and probably will be orthodoxy in the next. No greater misfortune can befall the medical profession than the action of an influential association or academy establishing a creed or standard of orthodoxy or "regularity." It will be fatal to freedom and progress in opinion and practice. On the other hand, nothing will so stimulate the healthy growth of the profession, both in scientific strength and in the honorable estimation of the public, as the universal and sincere adoption of a platform which shall recognize and guarantee:

1. A truly fraternal good will and fellowship among all who devote themselves to the care of the sick.

2. A thorough and complete knowledge, however obtained, of all the direct and collateral branches of medical science—as it exists in all sects and schools of medicine—as the essential qualification of a physician.

3. Perfect freedom of opinion and practice, as the unquestionable prerogative of the practitioner, who is the sole judge of what is the best mode of treatment in each case of sickness intrusted to his care.

The physician may, with propriety, decline to meet a practitioner of whose inimical feelings toward himself or of whose general unfairness in consultations he is satisfied. But in such a case he should explain to the patient his reasons; and if the patient desire the opinion of the practitioner objected to the family physician may withdraw from the case and allow the other to be sent for. But in justice to the latter the state of affairs should be explained to him at the time he is requested to visit the patient.

SECTION 2. The utmost punctuality should be observed in the visits of physicians when they are to hold consultations together; and this is generally practicable, for society allows the plea of professional engagements to excuse the neglect of all others, and to be a valid reason for the relinquishment of any present occupation. But as professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for his associate a reasonable period of time, after which the consultation should be considered postponed to a new appointment. If it be the attending physician who is present he will, of course, see the patient and prescribe; but if it be the consulting physician he should retire without seeing the patient, except in case of emergency, or when he has been called from a considerable distance, in which case he may examine the patient and give his opinion in writing and under seal, to be delivered to the attending physician.

SECTION 3. In consultations no rivalry or jealousy should be indulged in. Candor, probity and all due respect should be exercised toward the physician in charge of the case. If the consulting physician cannot agree with him respecting the nature and proper treatment of the case the physician should state this fact to the patient or his nearest friend, both physicians being present at the time, and should request him to select the one in whom he has most confidence. But if they agree sufficiently to take joint charge of the case, then the consulting physician must justify and uphold, so far as he can

conscientiously do so, the practice of his associate, and must abstain from any hints, insinuations or actions which might in any way impair the confidence which the patient reposes in him, or affect his reputation. He must refrain from any extraordinary attentions or assiduities calculated to ingratiate himself in the patient's favor and to supplant his associate.

SECTION 4. In consultations the attending physician should first put the necessary questions to the patient. After this the consulting physician should make such additional inquiries and examinations as may be needed to satisfy him of the true nature of the case. But he should avoid making a parade of examining the patient more thoroughly than had been done before, rather suggesting to the attending physician, where this is possible, to make whatever examinations he desires, than making them himself. Both physicians should then retire to a private room for deliberation.

SECTION 5. In consultations the attending physician should deliver his opinion first; and, when there are several consulting physicians, they should express their opinions in the order in which they have been called in. Should an irreconcilable diversity of opinion occur, when more than two physicians meet in consultation, the opinion of the majority should be regarded as decisive; but, if the number be equal on each side, the decision should rest with the attending physician. If two physicians, in consultation, cannot agree they should call in a third to act as umpire. If this be not practicable the patient must be requested to select the physician in whom he is most willing to confide. The physician who is left in the minority should, without any ill-feeling, retire from the consultation and from any farther participation in the management of the case; and, in justice to the physician thus retiring, the fact of his difference from his associates should, in the presence of all the physicians attending, be explained to the patient as his reason for withdrawing from the case.

SECTION 6. The attending physician should communicate to the patient or his friends the directions agreed upon in the consultation, as well as any opinion which it may be thought proper to express. But no statement or discussion should take place before the patient or his friends, except in the presence of all the physicians attending, and by their common consent. And no opinions or prognostications should be delivered which are not the result of previous de-

liberation and concurrence. No decision arrived at in a consultation is to be regarded as restraining the attending physician from making such variations in the treatment as any subsequent change in the case may demand. But such variation, and the reason for it, ought to be carefully noted at the time, and detailed at the next meeting in consultation. The same privilege belongs also to the consulting physician, if he is sent for in an emergency when the attending physician is out of the way; and similar explanations must be made by him at the next meeting.

SECTION 7. Sometimes a special consultation is desirable in cases in which the continued attendance of two physicians might be objectionable to the patient. The consulting physician, in such a case, should sedulously avoid all further unsolicited attendance. Such consultations require an extraordinary outlay of time and attention, and at least a *double honorarium* may be reasonably expected.

SECTION 8. The consulting physician cannot, with propriety, take exclusive charge at any time of the patient in whose case he has been called in consultation without the consent of the attending physician, except in cases provided for by the third sentence of section 3, and by the fourth sentence of section 5, of this article.

Article V.—Duties of Physicians in Cases of Interference.

SECTION 1. Medicine is a liberal profession, and those admitted into its ranks should base their expectations of success upon the extent of their qualifications, not upon intrigue or artifice. A physician should not allow himself to feel envious or jealous of a brother practitioner. The distinction which one successful physician wins is shared by the whole profession. Nor should a physician suffer himself to feel ill-will towards another who may come into his neighborhood and appears likely to take a share of the business which he has hitherto enjoyed. Such feelings are inconsistent with the beneficent and liberal nature of the profession. Liberality and true generous fraternity in thought, word and deed will unite the interests of all the members of the profession, and will so exalt the estimation in which it is held in the community that, confidence being increased, business will likewise increase; and to physicians will be accorded the position which, of right, should be theirs, that of confidential family advisers in all matters pertaining to the care of the body in health no less than in sickness.

SECTION 2. The physician, in his intercourse with a patient who is under the care of another practitioner, should observe the strictest caution and reserve. No meddling questions should be asked in any interview for business or friendship, no disingenuous hints thrown out relating to the nature and treatment of his disorder; nor should the patient be allowed to converse upon these topics. No course of conduct should be pursued which might, directly or indirectly, tend to diminish the trust reposed in the physician employed.

SECTION 3. A physician should not take charge of a patient who is, or has recently been, under the charge of another practitioner in the same illness, except in cases of sudden emergency, or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or has been regularly notified that his services are no longer required. Under such circumstances no unjust or illiberal remarks should be made or insinuations thrown out in relation to the treatment pursued by the previous physician. Nor should the physician permit the patient unreasonably to find fault with his predecessor, for patients often become dissatisfied with their attention on account of the mere duration of a case which no degree of professional knowledge or skill could have shortened.

SECTION 4. In cases of accident or sudden emergency one or more physicians are often sent for by alarmed friends. Courtesy should assign the patient to the first of these that arrives; and he should select from those present such additional assistance as he may deem necessary. But he should also request the family physician (if there be one) to be sent for, and on his arrival, resign the case into his hands. The practitioner of the patient, when he arrives, should take the place of any one called in his absence. "The practitioner of any patient" is the man whom he has in any way given to understand that he regards him as his medical adviser, or who would now be in charge of the case were it not for his absence, sickness or other disability.

SECTION 5. In a sparse population, a physician, when visiting a sick person, may be desired to see, in an emergency, a neighboring patient, who is under the regular charge of another physician. The conduct to be pursued on such an occasion is to give advice adapted to present circumstances; to interfere as little as possible with the general plan of treatment; to assume no farther direction of the case unless it be expressly desired; and, in the latter case, to request an immediate consultation with the practitioner previously employed.

SECTION 6. A wealthy physician should not give advice *gratis* to the affluent, because his so doing is an injury to his professional brethren. The office of the physician can never be supported as an exclusively beneficent one, and it is defrauding, in some degree, the common fund when fees are dispensed with which might justly be claimed.

SECTION 7. When a physician who has been engaged to attend a case of midwifery is absent, and another is sent for, if delivery is accomplished in the absence of the former, the latter is entitled to the fee, but he should resign the patient to the practitioner first engaged.

Article VI.—Of Differences Between Physicians.

SECTION 1. Diversity of opinion and opposition of interests may, in the medical, as in other professions, sometimes occasion controversy and even contention. When such cases occur and cannot be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a *court medical.*

Article VII.—Of Pecuniary Acknowledgments.

SECTION 1. Some general rules should be adopted by the physicians in every town or district relative to pecuniary acknowledgments from patients. These should be adhered to by physicians as uniformly as circumstances will permit. They serve, likewise, as a standard to which appeal may be taken in cases of doubt or dispute.

SECTION 2. Members of the medical profession have been so uniformly in the habit of attending, gratuitously, the indigent sick, and, in general, of answering every call promptly and without a question as to whether they are to receive remuneration therefor, that many persons seem to think they have a right to demand the services of physicians, and do, in fact, call upon them freely, and neglect or refuse to render any pecuniary equivalent, although abundantly able to do so. They impose upon one physician in this way until they have exhausted his patience, and then call upon another; and thus, in the course of a few years, make the circuit of the profession in their neighborhood. It is proper for the physicians of a community to make a list of the names of such individuals, and to demand, before visiting those whose names are on it, adequate security that their *honorarium* will be paid.

PART III.

THE RECIPROCAL DUTIES AND OBLIGATIONS OF PHYSICIANS AND THE PUBLIC.

Article 1.—Duties of Physicians to the Public.

SECTION 1. As good citizens, it is the duty of physicians to be vigilant for the welfare of the community and to bear their part in sustaining its institutions and burdens. They should be always ready to give counsel to the public in relation to matters appertaining to their profession, as, for example, on subjects of medical police, public hygiene and legal medicine. It is their province to enlighten the public in regard to quarantine regulations, the location, arrangements and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, drainage, ventilation, etc., and in regard to measures for the prevention of epidemic and contagious diseases. And, when pestilence prevails, it is their duty to face the danger and to continue their labors for the alleviation of suffering and the saving of life, even at the risk of their own lives.

SECTION 2. Physicians should always be ready, when called on by the proper authorities, to enlighten coroners' inquests and courts of justice on matters strictly medical, such as involve questions relating to insanity, legitimacy, or sudden and violent deaths, and in regard to the various other subjects embraced in the science of medical jurisprudence. But, in these cases, and especially where they are required to make post-mortem examinations, it is just and right, in consequence of the time, labor and skill required and the responsibility and risk they incur, that the public should award them more than a mere consulting fee.

SECTION 3. There is no profession, by the members of which eleemosynary services are more freely dispensed than they are by physicians; but justice demands that some limits should be placed to the claims upon such offices at their hands. Poverty, professional brotherhood, the benevolent and scantily remunerated occupation of the individual patient, and certain of the public duties referred to in Section 1 of this Article, should always be recognized as presenting valid claims for gratuitous services. But neither institutions endowed by the public or by rich individuals, societies for mutual

benefit, for the insurance of lives or for analogous purposes, nor any profession or occupation can be admitted to possess such privilege. Nor can it be justly expected of physicians to furnish certificates of inability to serve on juries, or perform military duty, or to certify to the state of health of parties wishing to insure their lives, obtain pensions or the like, without a pecuniary acknowledgment. But to indigent persons such professional services should always be cheerfully and freely accorded.

Article II.—Obligations of the Public to Physicians.

SECTION 1. The benefit accruing to the public, directly and indirectly, from the active and constant labors and beneficence of the medical profession are so numerous and important that physicians are justly entitled to the utmost consideration from the community. The public ought, likewise, to entertain a just appreciation of the proper qualifications of a practitioner of medicine; to make a due discrimination between true science and the assumptions of ignorance and empiricism; to afford every encouragement and facility for the acquisition of medical education, and not to allow the provisions of their statute books or of the prospectus of their chartered institutions to interpose any obstacles to the attainment of the fullest knowledge of every branch of medical science, or in any way, to restrain the most entire freedom of thought, investigation and action in matters appertaining to the practice of medicine.

INDEX.

PAGE.

A Case of Appendicitis in a Large Inguinal Hernia. A. W. Yale, M. D. .. 192
Address of the President. D. C. Kline, M. D. 14
Address of Welcome. E. D. Doolittle, M. D. 9
Address of Welcome. Ethelbert D. Warfield, LL. D. 11
Address of Welcome. Response to. Theo. Sureth, M. D. 13
Advanced Biology, With Relation to Homœopathic Principles. I. W. Heysinger, M. D. 170
A Few Points on Nasal Diseases. H. F. Schantz, M. D. 407
A Few Remedies Rarely Prescribed in Diseases of the Eye. D. W. Harner, M. D. 398
A Few Thoughts on Our Materia Medica. Aug. Korndorfer, Sr., M. D. 365
Amendments to the By-Laws, Proposed 47
American Institute of Homœopathy, Code of Medical Ethics of the 473
American Institute of Homœopathy, Delegates to the 50
Anal Fissure. G. B. Moreland, M. D. 250
An Unusual Case of Diphtheria; Nasal Intubation; Recovery. H. M. Gay, M. D., and C. S. Raue, M. D. 166
A Plea for the Indicated Remedy. S. W. S. Dinsmore, M. D. 115
Arthritis Deformans, With Report of a Case. G. M. Golden, M. D. 323
Asepsis and Its Uses in Latter Day Surgery. J. L. Peck, M. D. 224

Baker, W. F., M. D. Locomotor Ataxia; A Case 151
Belville, J. E., M. D. Early Operation in Appendicitis From a Pathological Standpoint 155
Betts, B. F., M. D. The Obligations of the Physician in the Care of Obstetric Cases 92
Bigler, B. E., M. D. The Salt River Valley Climate (Arizona) 296
Board of Censors, Report of the 43
Board of Medical Examiners, Special Committee to Interview the 50
Board of Medical Examiners, Report of Special Committee to Interview the 41
Boileau, J. D., M. D. Food Impurities and Adulterations 299
Brewer, Mary, M. D. "My Paralyzed Baby;" a Unique Case 199
Bullard, J. A., M. D. Symptom Chasing 316
By-Laws of the Society 51

Calcarea Carb., Kali Carb. and Graphites. Edward Cranch, M. D. 387
Call to Order. D. C. Kline, M. D. 9
Carmichael, T. H., M. D. Loyalty to the Pharmacopœia 376
Censors, Report of the Board of 43
Chapman, Millie, J., M. D. Medical Gynæcology 100
Charter of the Society 51
Chase, T. L., M. D. Diseases of the Fallopian Tubes 102

PAGE.

Cleave—Epithelioma Malignum; Report of a Case; Resume of the Histology and Pathology J. E. James, Jr., M. D. 438
Christine, G. M., M. D. The Treatment of Certain Intra-Abdominal Diseases From the Standpoint of Surgery 229
Chronological List of Officers 61
Clinical Medicine, Report of the Section of 316
Code of Ethics, Resolution in Reference to Publishing 46
Code of Medical Ethics of the American Institute of Homœopathy 473
Committee, Membership 50
Committee on Examination of Students 50
Committee on Examination of Students, Report of the 41
Committee on Legislation 50
Committee on Legislation, Motion in Reference to Reappointment of Present 48
Committee on Legislation, Report of the 36
Committee on Organization, Registration and Statistics 50
Committee on Organization, Registration and Statistics, Report of the. G. B. Moreland, M. D., Chairman 28
Committee on Publication 50
Committee, Press 50
Committee to Interview Medical Examiners 50
Committee to Interview Medical Examiners, Report of the 41
Committees, Delegates and 50
Communication From the Pennsylvania State Nurses' Association 48
Convalescence E. S. Haines, M. D. 202
Corresponding Members, List of 76
Corresponding Secretary, Report of. E. M. Gramm, M. D. 22
Cyanch, Edward, M. D. Calcarea Carb., Kali Carb. and Graphites 387

Delegates and Committees 50
Delegates to the American Institute of Homœopathy 50
Delegates to the Interstate Committee of the American Institute of Homœopathy 50
Delegates to the Interstate Committee of the American Institute of Homœopathy, Report of 36
Diacetic Acid in Diabetes Mellitus. J. C. Guernsey, M. .D 168
Dunsmore, S. W. S., M. D. A Plea for the Indicated Remedy 115
Discussions and Papers 83
Diseases of the Fallopian Tubes. T. L. Chase, M. D. 102
Dispensaries of the State of Pennsylvania, Homœopathic 35
Donation to the Trustees of the Institute of Drug Provings 48
Doolittle, E. D., M. D. Address of Welcome 9

Early Operation in Appendicitis From a Pathological Standpoint. J. E. Belville, M. D. 155
Edgar, Rev. I. W., D. D. Invocation 9
Election of Members 43
Election of Officers 46
Ether in Post-Operative Intestinal Paralysis. T. J. Gramm, M. D. 118

PAGE.
Ethics, Code of Medical, of the American Institute of Homœopathy 473
Examination of Students, Committee on 50
Examination of Students, Report of Committee on 41
Excision of the Elbow Joint. E. R. Gregg, M. D. 244
Extra-Uterine Pregnancy. J. H. Thompson, M. D. 466
Eye-Strain; Its Consequences and Treatment. G. H. Haas, M. D 401

Food Impurities and Adulterations. J. D. Boileau, M. D. 209
Fractures of the Neck of the Femur. G. A. Van Lennep, M. D. 263

Gay, H. M., M. D., and C. S. Raue, M. D. An Unusual Case of Diphtheria; Nasal Intubation; Recovery 166
Goff, Ella D., M. D. Report of Treasurer 45
Golden, G. M., M. D. Arthritis Deformans; With Report of a Case 323
Gramm, E. M., M. D. Report of the Corresponding Secretary 22
Gramm, T. J., M. D. Eserin in Post-Operative Interstitial Paralysis.... 118
Gramm, T. J., M. D. The Parasitic Origin of Carcinoma 138
Gregg, E. R., M. D. Excision of the Elbow Joint 244
Guernsey, J. C., M. D. Diacetic Acid in Diabetes Mellitus 168
Guernsey, J. C., M. D. The Prophylactic Power of Some Drugs 390
Gynæcology for the General Practitioner. W. A. Stewart, M. D..... 85
Gynæcology, Report of the Section of 85

Haas, G. H., M. D. Eye-Strain; Its Consequences and Treatment 401
Haines, E. S., M. D. Convalescence 202
Harner, D. W., M. D. A Few Remedies Rarely Prescribed in Diseases of the Eye 308

Health Boards in Rural Districts, Resolutions in Reference to 46
Heysinger, I. W., M. D. Advanced Biology, With Relation to Homœopathic Principles 170
Homœopathic Dispensaries of the State of Pennsylvania 35
Homœopathic Hospitals of the State of Pennsylvania 35
Homœopathic Medical Societies of the State of Pennsylvania 31
Honorary Members, List of 76
Hospitals of the State of Pennsylvania, Homœopathic 35
Hospital versus Home Care of Confinement Cases. Emma T. Schreiner, M. D. 454
Human Environment. W. E. Rotzell, M. D 307
Interstate Committee of the American Institute of Homœopathy, Delegates to 50
Interstate Committee of the American Institute of Homœopathy, Report of Delegates to 36
Institute of Drug Provings, Donation to 48
Invocation. Rev. I. W. Eckard, D. D. 9

James J. E., Jr., M. D. Chorio-Epithelioma Malignum; Report of a Case; Resume of the Histology and Pathology 438

Kline, D. C., M. D. Address of the President 14
Kline, D. C., M. D. Call to Order 9
Korndoerfer, Aug., Sr., M. D. A Few Thoughts on Our Materia Medica 365

PAGE.
Lane, N. F., M. D. Retro-Displacement of the Uterus 127
Legislation, Committee on 50
Legislation, Motion in Rereference to Reappointment of the Present Committee on 48
Legislation, Report of the Committee on 36
List of Corresponding Members 76
List of Honorary Members 76
List of Members 64
List, Necrological 77
List of Officers, Chronological 61
Locomotor Ataxia; a Case. W. F. Baker, M. D. 151
Love, Jessie C., M. D. The Observation of Symptoms in Children 209
Loyalty to the Pharmacopœia. T. H. Carmichael, M. D. 376

Marasmus. F. L. Muth, M. D. 220
Materia Medica, Report of the Section of 365
McDowell, A. S., M. D. Typhoid Fever in Children 216
Medical Gynæcology. Millie J. Chapman, M. D. 100
Medical Societies of the State of Pennsylvania 31
Meeting, Place of Next 48
Meeting, Program of the 22
Members and Visitors Registered at the Meeting 81
Members, Election of 43
Membership Committee 50
Members, List of 64
Members, New 43
Moreland, G. B., M. D. Anal Fissure 250
Moreland, G. B., M. D. Report of the Committee on Organization, Registration and Statistics 28
Muth, F. L., M. D. Marasmus 220
"My Paralyzed Baby;" a Unique Case. Mary Brewer, M. D. 199

Nasal Obstruction; Its Causes and Results. H. S. Weaver, M. D. 428
Necrological List 77
Necrologist, Report of the. Chandler Weaver, M. D. 38
Nephropexy According to the Method of Edebohls. H. L. Northrop, M. D. 257
New Members 43
Next Meeting, Place of 48
Northrop, H. L., M. D. Nephropexy According to the Method of Edebohls 257
Nurses' Association, Communication From the Pennsylvania State 48

Obstetrics, Report of the Section of 438
Officers, Chronological List of 61
Officers, Election of 46
Officers for the Ensuing Year 46
Order, Call to. D. C. Kline, M. D. 9
Order of Business 22
Organization, Registration and Statistics, Committee on 50

PAGE.
Organization, Registration and Statistics, Report of the Committee on G. B. Moreland, M. D., Chairman 28
On the Frequency of Pulmonary Phthisis in Infancy and Childhood. E. R. Snader, M. D. 349
Ophthalmology, Otology and Laryngology, Report of the Section of ... 398
Pædology, Report of the Section of 194
Papers 83
A Case of Appendicitis in a Large Inguinal Hernia. A. W. Yale, M. D. 192
Advanced Biology, With Relation to Homœopathic Principles. I. W. Heysinger, M. D. 170
A Few Points on Nasal Diseases. H. F. Schantz, M. D. 407
A Few Remedies Rarely Prescribed in Diseases of the Eye. D. W. Harner, M. D. 398
A Few Thougths on Our Materia Medica. Aug. Korndorfer, Sr., M. D. 365
Anal Fissure. G. B. Moreland, M. D. 250
An Unusual Case of Diphtheria; Nasal Intubation; Recovery. H. M. Gay, M. D., and C. S. Raue, M. D. 166
A Plea for the Indicated Remedy. S. W. S. Dinsmore, M. D. 115
Arthritis Deformans, With Report of a Case. G. M. Golden, M. D. 323
Asepsis and Its Uses in Latter Day Surgery. J. L. Peck, M. D. 224
Calcarea Carb., Kali Carb. and Graphites. Edward Cranch, M. D. 387
Chorio-Epithelioma Malignum; Report of a Case; Resume of the Histology and Pathology. J. E. James, Jr., M. D. 438
Convalescence. E. S. Haines, M. D. 202
Diacetic Acid in Diabetes Mellitus. J. C. Guernsey, M. D. 168
Diseases of the Fallopian Tubes. T. L. Chase, M. D. 102
Early Operation in Appendicitis From a Pathological Standpoint. J. E. Belville, M. D. 155
Eserin in Post-Operative Intestinal Paralysis. T. J. Gramm, M. D. 118
Excision of the Elbow Joint. E. R. Gregg, M. D. 244
Extra-Uterine Pregnancy. J. H. Thompson, M. D. 466
Eye-Strain; Its Consequences and Treatment. G. H. Haas, M. D. 401
Food Impurities and Adulterations. J. D. Boileau, M. D. 209
Fractures of the Neck of the Femur. G. A. Van Lennep, M. D. 263
Gynæcology for the General Practitioner. W. A. Stewart, M. D. . 85
Hospital versus Home Care of Confinement Cases. Emma T. Schreiner, M. D. 454
Human Environment. W. E. Rotzell, M. D. 307
Locomotor Ataxia; a Case. W. F. Baker, M. D. 151
Loyalty to the Pharmacopœia. J. H. Carmichael, M. D. 376
Marasmus. F. L. Muth, M. D. 220
Medical Gynæcology. Millie J. Chapman, M. D. 100
"My Paralyzed Baby;" a Unique Case. Mary Brewer, M. D. 109
Nasal Obstruction; Its Causes and Results. H. S. Weaver, M. D. 428
Nephropexy According to the Method of Edebohls. H. L. Northrop, M. D. 257

PAGE.

On the Frequency of Pulmonary Phthisis in Infancy and Childhood. F. R. Snader, M. D. 349
Pneumonia and Pleurisy in Childhood. C. S. Raue, M. D. 336
Report of Cases. H. B. Ware, M. D. 420
Retro-Displacement of the Uterus. N. F. Lane, M. D. 127
Sanitary Clothing. R. L. Piper, M. D. 288
Some Reflexes From Eye-Strain. J. W. Stitzel, M. D. 414
Symptom Chasing. J. A. Bullard, M. D. 316

The Demands of Paedology in the Progress of Medicine. Anna D. Varner, M. D. 194
The Diagnostic Value of the Normal Constituents of the Urine. W. W. Seibert, M. D. 346
The Nature of Disease. Robert Walter, M. D. 356
The Obligations of the Physician in the Care of Obstetric Cases. B. F. Heis, M. D. 92
The Observation of Symptoms in Children. Julia C. Loos, M. D. 209
The Parasitic Origin of Carcinoma. T. J. Gramm, M. D. 138
The Pathology of the Puerperium. R. E. Tomlin, M. D. 187
The Present Status of the Surgery of the Stomach. W. B. Van Lennep, M. D. 273
The Prophylactic Power of Some Drugs. J. C. Guernsey, M. D... 390
The Salt River Valley Climate (Arizona). B. E. Bigler, M. D. .. 296
The Treatment of Certain Intra-Abdominal Diseases From the Standpoint of Surgery. G. M. Christine, M. D. 229
Toxæmia and Albuminuria of Pregnancy and Their Treament. E. S. Synder, M. D. 460
Typhoid Fever in Children. A. S. McDowell, M. D. 216
Papers and Discussions 83
Pathology and Pathological Anatomy, Report of the Section of 138
Pile, J. L., M. D. Asepsis and Its Uses in Latter Day Surgery 224
Pennsylvania State Nurses' Association, Communication From the 48
Piper, R. L., M. D. Sanitary Clothing 288
Place of Next Meeting 48
Pneumonia and Pleurisy in Childhood. C. S. Raue, M. D. 336
President, Address of. D. C. Kline, M. D. 14
Press Committee 50
Program of Meeting 22
Proposed Amendments to the By-Laws 47
Publication Committee 50

Raue, C. S., M. D., and H. M. Gay, M. D. An Unusual Case of Diphtheria: Nasal Intubation; Recovery 166
Raue, C. S., M. D. Pneumonia and Pleurisy in Childhood 336
Registration of Vital Statistics, Resolutions in Reference to 45
Report of Cases. H. B. Ware, M. D. 420
Report of the Board of Censors 43
Report of the Board of Trustees 28
Report of the Committee on Examination of Students 41
Report of the Committee on Legislation 36

PAGE.
Report of the Committee on Organization, Registration and Statistics G. B. Moreland, M. D. 36
Report of the Coresponding Secretary. E. M. Gramm, M. D. 22
Report of the Delegates to the Interstate Committee of the American Institute of Homœopathy 36
Report of the Necrologist. Chandler Weaver, M. D. 38
Report of the Section of Clinical Medicine 316
Report of the Section of Gynæcology 85
Report of the Section of Materia Medica 365
Report of the Section of Obstetrics 438
Report of the Section of Ophthalmology, Otology and Laryngology 398
Report of the Section of Pædology 194
Report of the Section of Pathology and Pathological Anatomy 138
Report of the Section of Sanitary Science 288
Report of the Section of Surgery 224
Report of the Treasurer. Ella D. Goff, M. D. 45
Resignation of C. S. Schwenk, M. D. 45
Resolutions in Reference to Health Boards in Rural Districts 46
Resolutions in Reference to Registration of Vital Statistics 45
Resolutions in Reference to Publishing Code of Ethics 46
Resolutions of Thanks 49
Response to Address of Welcome. Theo. Sureth, M. D. 13
Retro-Displacement of the Uterus. N. F. Lane, M. D 127
Rotzell, W. E., M. D. Human Environment 307

Sanitary Clothing. R. L. Piper, M. D 288
Sanitary Science, Report of the Section of 288
Schantz, H. F., M. D. A Few Points on Nasal Diseases 407
Schreiner, Emma T., M. D. Hospital versus Home Care of Confinement Cases 454
Schwenk, Dr. C. S. Resignation of 45
Section of Clinical Medicine, Report of the Section of 316
Section of Gynæcology, Report of the Section of 85
Section of Materia Medica, Report of the Section of 365
Section of Obstetrics, Report of the Section of 438
Section of Ophthalmology, Otology and Laryngology, Report of the 398
Section of Pædology, Report of the 194
Section of Pathology and Pathological Anatomy, Report of the 138
Section of Sanitary Science, Report of the 288
Section of Surgery, Report of the 224
Seibert, W. W., M. D. The Diagnostic Value of the Normal Constituents of the Urine 346
Snader, E. R., M. D. On the Frequency of Pulmonary Phthisis in Infancy and Childhood 349
Snyder, E. S., M. D. Toxæmia and Albuminuria of Pregnancy and Their Treatment 460
Some Reflexes From Eye-Strain. J. W. Stutzel, M. D 414
Stewart, W. A., M. D. Gynæcology for the General Practitioner 85

PAGE.

Stifel, J. W., M. D. Some Reflexes From Eye-Strain 414
Students, Report of the Committee on the Examination of 41
Sureth, Theo., M. D. Response to Address of Welcome 13
Surgery, Report of the Section of 224
Symptom Chasing. J. A. Bullard, M. D. 316

Thanks, Resolutions of 49
Thanks, Votes of 49
The Demands of Pædology in the Progress of Medicine. Anna D. Varner, M. D. 194
The Diagnostic Value of the Normal Constituents of the Urine. W. W. Seibert, M. D. 346
The Nature of Disease. Robert Walter, M. D. 356
The Obligations of the Physician in the Care of Obstetric Cases. B. F. Betts, M. D. 92
The Observation of Symptoms in Children. Julia C. Loos, M. D. 209
The Parasitic Origin of Carcinoma. T. J. Gramm, M. D. 138
The Pathology of the Puerperium. R. E. Tomlin, M .D. 187
The Present Status of the Surgery of the Stomach. W. B. Van Lennep, M. D. 273
The Prophylactic Power of Some Drugs. J. C. Guernsey, M. D. 390
The Salt River Valley Climate (Arizona). B. E. Bigler, M. D. 296
The Treatment of Certain Intra-Abdominal Diseases From the Standpoint of Surgery. G. M. Christine., M. D. 229
Thompson, J. H., M. D. Extra-Uterine Pregnancy 466
Tomlin, R. E., M. D. The Pathology of the Puerperium 187
Toxemia and Albuminuria of Pregnancy and Their Treatment. E. S. Snyder, M. D. 460
Treasurer, Report of the. Ella D. Goff, M. D. 45
Trustees, Report of the Board of 28
Typhoid Fever in Children. A. S. McDowell, M. D. 216

Van Lennep, G. A., M. D. Fractures of the Neck of the Femur 263
Van Lennep, W. B., M. D. The Present Status of the Surgery of the Stomach 273
Varner, Anna D., M. D. The Demands of Pædology in the Progress of Medicine 194
Visitors and Members Registered at the Meeting 81
Votes of Thanks 49

Walter, Robert, M. D. The Nature of Disease 356
Ware, H. B., M. D. Report of Cases 420
Warfield, Ethelbert D., LL. D. Address of Welcome 11
Weaver, Chandler, M. D. Report of Necrologist 38
Weaver, H. S., M. D. Nasal Obstruction; Its Causes and Results 428
Welcome, Address of. E. D. Doolittle, M. D. 9
Welcome, Address of. Ethelbert D. Warfield, LL. D. 11
Welcome, Response to Address of. Theo. Sureth, M. D. 13

Yale, A. W., M. D. A Case of Appendicitis in a Large Inguinal Hernia. 192

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